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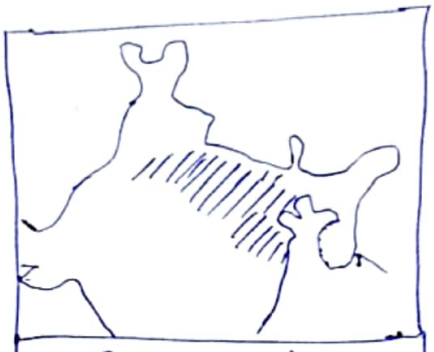
इस हाशिए में नहीं लिखना चाहिए। Candidates must not write on this margin.

1. The Pala empire which spread over the 8th – 11th century AD was a kingdom in Eastern and Northern India whose leaders were Buddhist



Pala empire

Contribution of Pala Dynasty to Art

→ Pala miniature paintings represent a lone figure on a palm leaf.

→ Pala paintings depict Buddhist ideals

(eg) Jataka tales

→ Pala sculptures use terracotta and black brick.

→ The Vajrayana form of Buddhism, which originated during Pala reign is finds depiction in their art forms.

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→ Pala paintings referenced to different stages in Buddha's life.

(eg) enlightenment at Bodh Gaya.
First sermon at Samath.

→ Combined elements of Hindu and Buddhist art forms.

→ Art was encouraged in universities like Vikram Shila

Ways to preserve Pala Art
- protection in museums
- modern technology
- can generate tourism revenue
  → help meet Dharmshala declaration target.

Thus, Pala period art should be promoted in line with Articles 49 and 51A which ask us to preserve our heritage.

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2.

Adi Shakaracharya's unique contribution included helping spread the Bhakti movement which reinvented ~~Baddhism~~ Hinduism by marking a departure from Brahmanical rituals

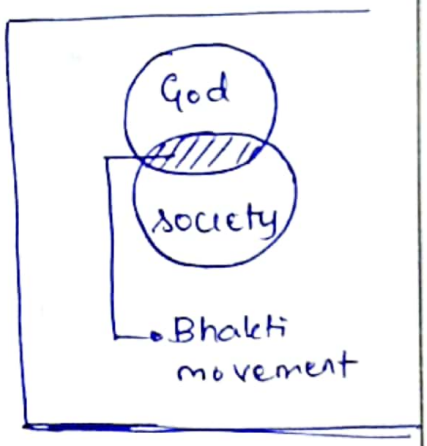
He reinvented Hinduism

→ Rejected Brahmanical superiority

→ Against idol worship.

→ Welcomed all castes

→ Help combine elements of religion with that of society



(eg) use of vernacular languages like Tamil, kannada, etc.

→ Against rigid rituals.

→ Welcomed women.

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He re-established Vedic tradition with Excellent commentaries

→ Focus on love, tolerance, peace → as in the Vedas.

(eg) inspired by him, Ramananda had disciples from all religions — Sena, Sadhana, Kabir.

→ Inspiring people to help others.

(eg) Langars in Sikh community.

→ Foregoing idolatory

→ Various literature forms that he helped create provided commentaries

(eg) Kabir's dohe, Mirabai poetry, Narsinh Mehta's Bhajan

impact
- rigidity in religion decline
- promotion of vernaculars.
- fillip to sufi movement too.

Thus, Adi Shakaracharya's genius helped society to overcome Brahminical indoctrination and gave rise to Vaishnavism & Shaivism

ambitious

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3.

The colonial regime viewed India's forests as economic resources that could be exploited for wood, timber, etc without concern for locals or environment.

Forest policies ⇒ driven by needs of British

- Need timber for railways (est. 1853).
- Needed new land for agricultural expansion ⇒ deforestation.
  - (eg) As late as 1840, 60% British revenue came from agriculture.
- cut down to make plantations.
  - (eg) Indigo and opium in Eastern India

No concern for environment

- Many indigenous plant species lost.
- Biodiversity harmed by British interests.
  - (eg) sport hunting in forests ⇒ extinction of cheetahs in 1952
- landscapes in delicate Himalayas altered. (eg) in Shimla, Mussoorie.

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No concern for local well being

→ local dependence on forest was ignored.

(eg) led to Munda Rebellion (1899)

→ Forest laws curtailed access to common resources

(eg) Forest regulation 1881 ⇒ Rampa Rebellion.

→ Forests and their religious significance was ignored.

(eg) Gonds worshipped sacred forest deities

→ Displacement of locals

Impact
- resentment amongst tribals, locals
- exposed exploitative British policies
- contributed to nationalism

To correct the wrongs of the British, the Forest Act 1980 was implemented & forest policy 1988 seeks to achieve 33% forest cover. Further, Forest rights Act 2006 for tribals enacted

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परीक्षार्थी इस क्षेत्र में नहीं लिखेंगे
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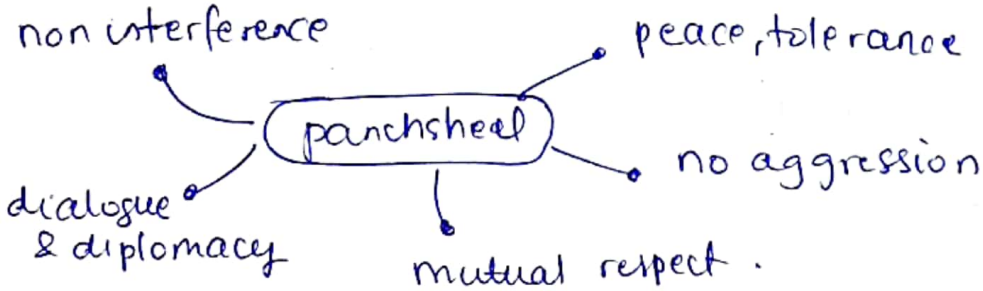
4. The Cold War – or "the war that never happened" – refers to a period marked by proxy confrontations between the US and USSR between 1945–1991

Panchsheel : Helped during Cold War

- Panchsheel formed the preamble of the 1954 Indo-China peace treaty



- Established India's stand as a peaceful nation (in line with Article 51) and did not extend support to either side of cold war.

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Non Alignment : Help during Cold War

- NAM established India's neutrality
  - by India, Egypt, Yugoslavia
    (Nehru) (Naseer) (Tito)
- India refused to work against either US ~~and~~ or USSR
- maintained its strategic autonomy
- Focused on needs of the nation, rather that international politics

Impact of Panchsheel & NAM

- set base for India as leader of the Global South
- Collaboration with both.
  - eg US – PL480 imports
  - eg USSR – Aryabhatta mission, Kundankulum plant

Even today, in the era of the Ukraine conflict, India has maintained strategic autonomy by continuing to purchase Russian oil despite Western pressure.

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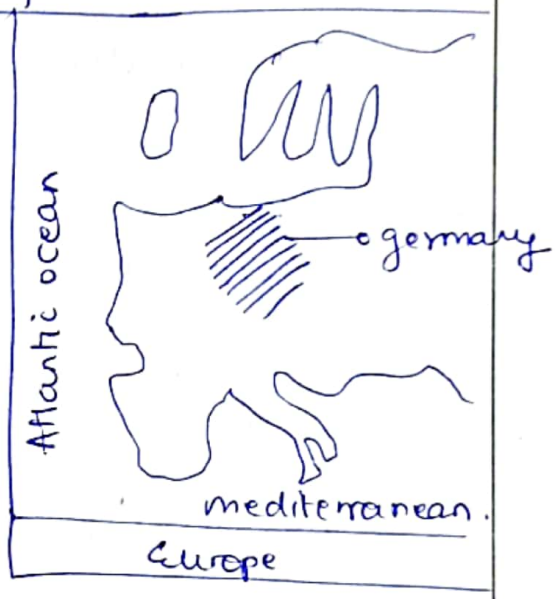
5. In the 19th century, the spread of industrial revolution in Europe created a heightened sense of nationalism, which led to the attempts for national unification.

Struggle for national unification

Caused by -

→ Rising nationalism due to IR.

→ Colonial powers compeled overseas



→ Strong leaders (eg) Italy: Garibaldi, Mezzini
Germany: Bismarch

→ New ideas emerged post French Revolution (1789)
(eg) Democracy, rule of law.

Germany's national unification (1871)

→ led by Prussian leader Bismarch.

→ Prussia extended control over neighbouring empires -

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→ Freed itself from Austrian domination

→ Franco Prussian wars in 1871 helped in the unification process.

→ Unification allowed Germany to gain greater political & economic power

→ Bismarch became chancellor of Germany.

Impact of national unification in Europe

- strengthened colonial hold over the world
- set base for "scramble for Africa" (1881 - 1914)
- Heightened nationalism
- increasing rivalry in Europe.

⇒ world wars

In India too, the works of Bismarch & Garibaldi inspired the likes of Veer Savarkar who were thus inspired to fight for Indian freedom.

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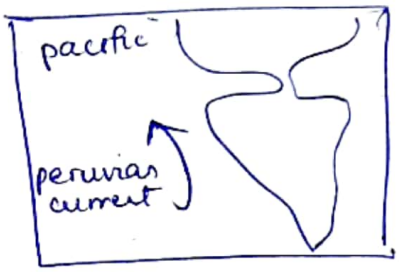
6. The triple dip la Niña refers to the phenomenon in which for 3 consecutive years, the la Niña is observed.

Triple Dip la Niña

→ The la Niña causes a cold current to occupy the Western South American coast - alongside Peru.



→ It occurs once in 3-7 years

→ It is the opposite of El Niño

→ Disrupts global climate.

Impact on Different Regions of the world

→ Strengthens Indian monsoon

⇒ agricultural boost.

(eg) 52% Indian farmers still rain fed.

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→ weakens cyclones in pacific ocean.

→ strengthens the Leeuwin current

⇒ rain along Western coast of Australia.

→ Causes rainfall patterns in North America & Europe to deviate from normal pattern.

→ Heightened rainfall in South East Asia
- → Indonesia
- → Phillipines
- → Thailand.

The impact of La Niña is studied by the MoES. The US-India collaboration - NISAR satellite can be used for the same.

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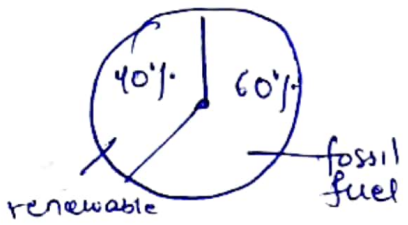
7. Hydropower contributes to about 12% of India's energy needs. To achieve our Paris COP NDCs we need to enhance this. to meet 500 GW renewable energy target by 2023.

Hydropower: low carbon energy supplier
- better than fossil fuels
- limited use of coal.

Hydropower: Share in India's electricity generation remains low - causes

→ overdependence on non-renewable energy



India's energy mix.

→ Hydropower usage is expensive process.

(eg) limited funds. India's tax/GDP ratio is only 17%.

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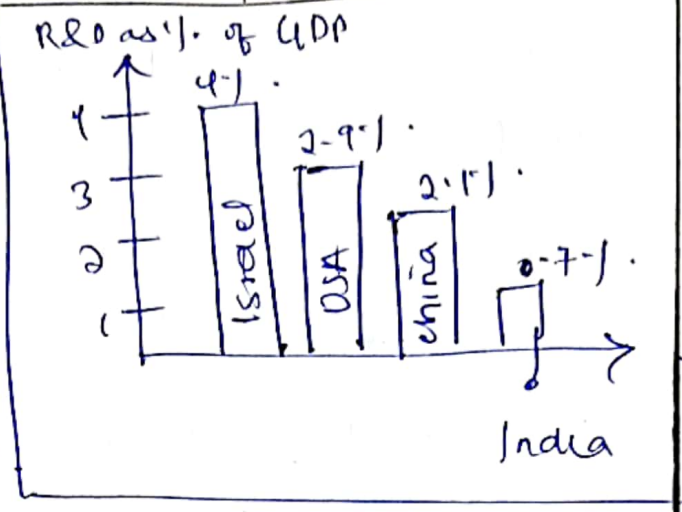
→ R&D needed for its development but low R&D in India →



→ Technology transfer from rich nations is limited

⟹ despite discussion @ COP 27

→ Limited expertise (eg) only 27% gross enrollment rate in higher education in India.

Solution
- call for technology transfer
- PPP (eg) with Reference group.
- International collab. (eg) with Israel.

To meet India's panchamrita target & create sustainable growth that is climate resilient (SDG 13) hydropower is key.

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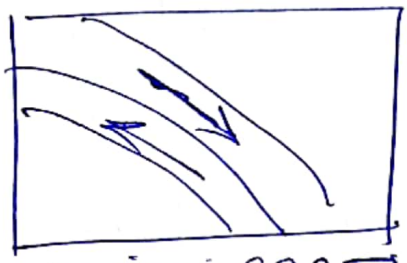
8. The 7.6 magnitude earthquake in Gaziantep Turkey caused the loss of 60,000 lives.

Seismic gap

- gap that exists between two tectonic plates
- results in transformation movement of tectonic plates.
- Plates slide past each other. w/o convergence or divergence



seismic gap ⇒ transformation boundary

- such a seismic gap ⇒ release in seismic energy ⇒ earthquake.

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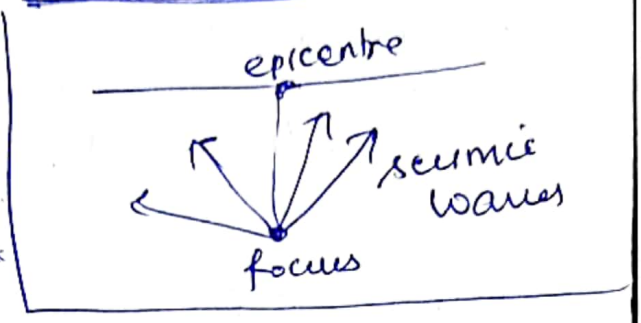
Reasons behind earthquake severity:

- low focal that was close to earth



- buildup of energy
- large movement of tectonic plates
- urbanization ⇒ large scale property destruction ⇒ loss of life.
- overcrowding buildings

In India too, 58% of our land mass is susceptible to earthquake damage (NIDM)

Thus, the phenomenon needs to be studied & we must prepare for it in line with NDMA 2005 & Sendai protocol.

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अभ्यर्थियों को इस मार्जिन में कोई विवरण लिखना नहीं Candidates must not write on this margin

9. The ongoing Supriyo case discusses the legality of same sex marriage in India

Recent trend in marriage

- average marriage age for both men & women is rising
- move to nuclear families
- Rising divorce rates
- live in relations are becoming normalized.
- empowerment of women seen
  - eg Women continuing to work post marriage.
- Caste endogamy continues.
  - eg only 6% marriages inter caste (census 2011)

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Legal backing of same sex marriage
Importance

- Need to uphold right to equality for same sex couples (u/A 14, 15, 16)

- Natural progression post Navtej Johar verdict
  - struck down section 377

- Rule of law → under constitution

Concerns
- societal instability
- idea of marriage altered
- religious turmoil

Thus, a decision which taken into account both the need for equality & societal sensibility is needed

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10. According to ICMR, 1 in every 7 Indians now suffers from a mental health challenge

Challenges to sound mental health

- overburdened work culture.
  - (eg) "hustle" mentality.
- social media ⟹ encourages toxic comparisons.
  - (eg) 250 million facebook users in India.
- lack of awareness
  - (eg) mental health as the "invisible" disease.
- PWD Act 2016 does not include mental health

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- Limited moral and emotional education in schools
- post COVID loneliness
- limited healthcare spending
  - (eg) only 2.1% of Indian GDP spent on health
    - 3% in Bangladesh

Solution
- mainstream mental health
- counsellors in every school.
- improve workculture & corporate governance.
- awareness w.r.t social media harm

A healthy mind creates a happy ~~man~~ citizen who can contribute to the socio-economic development of India in the Amrit Kaal

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16. Numismatics refers to the study of coins to learn about the socio-cultural & economic development of various civilizations.

Major Numismatic Stages in India

- Indus Valley Civilization and Vedic period
  - coin like items exist but limited use.
  - barter continued in most transactions.
    - ⇒ limited trade development
- Mauryan era (3rd – 5th c BC)
  - punch marked silver coins were used.
  - use did not touch common people.

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- Kushans under Kanishka.
  - issued the purest gold coins.
  - trade flourished.
- Gupta (300-600 AD). ~ Golden period
  - largest number of gold coins
  - depicted — goddess laxmi
    - Chandragupta on horse
    - Samadrugupta playing Veena
  - multiple designs existed.
- post Gupta
  - decline in coins and trade due to Roman ban on Indian trade
- Mughals
  - coins represented Islamic motifs & kings
  - silver currency and open minting
- British
  - moved from silver coins ~~to~~ to other metals
  - depicted British rulers

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How coin study helps in understanding history?

- Helps determine timelines of ancient dynasties
- Tracks trade routes of civilizations.
- Determines the extent of empires
- Reveals cross cultural interactions
  - (eg) Chola coins found in South East Asia
- Depicts rulers, cultural practices
  - (eg) Chera coins depicting deities
- Helps in deciphering ancient languages

Need of the Hour
- coin preservation
- studying them to understand history better

By studying coins, we can gain greater insights into Indian culture and life especially in pre British era thus allowing us to "decolonize our minds" in line with PM Modi's vision

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12. Dr. Ambedkar - remembered as the father of Indian constitution was an 20th century Indian leader whose contributions continue to shape modern India.

Champion of Dalit Rights

- described the Indian caste system as a "tower without staircase" with each floor representing a caste.
- Called for "annihilation of caste"
- Believed that inter-caste marriage was the solution
- Established "All India Association for Scheduled Castes".
- Led Mahar Satyagraha in maharashtra.
- Signed Poona Pact (1932) on behalf of Dalits.

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Contributions of Dr. Ambedkar: Far Beyond caste

- **Economic commentary** – he was a Columbia educated economist
  - (ex) Wrote "Problem of the rupee (1923)"
    - ⇒ contributed to establishment of RBI (1934).

- Spread of **Buddhism** in India was enabled by him.
  - (eg) He launched mass conversions to Buddhism.

- **Constitutional legacy**
  - helped found a 'sovereign, democratic, republic marked by equality (a | A 14–18)

- **Women's Rights**

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He carried forward the legacy of Jyotibha and Savitribai Phule by promoting female education

- Highlighted need for development of indigenous industries to promote jobs and reduce poverty.

- post independence, as member of Rajya Sabha, he took part in many fiery debates.

Need to
- educate young Indians about his contribution (eg) via NEP 2020

Dr. Ambedkar's visions ~~were~~ was captured in the Indian constitution which today promotes justice - social, economic, political & helps create a welfare state (u/A 38)

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13.

The Civil Disobedience movement (CDM) began with the Dandi March in 1930 and marked a nationwide agitation against colonialism under the leadership of Gandhiji (2/10/1869 - 31/01/1948)

Unique Character of CDM.

- clearly defined goal unlike during Non cooperation.
  - eg 1929 Lahore session: complete independence demand.
- Breaking of laws allowed by INC.
- civil servants asked to resign
- army personnel asked to leave their posts
- international attention
  - eg Gandhiji became Time magazine person of the Year (1930).
- Focus on Khadi

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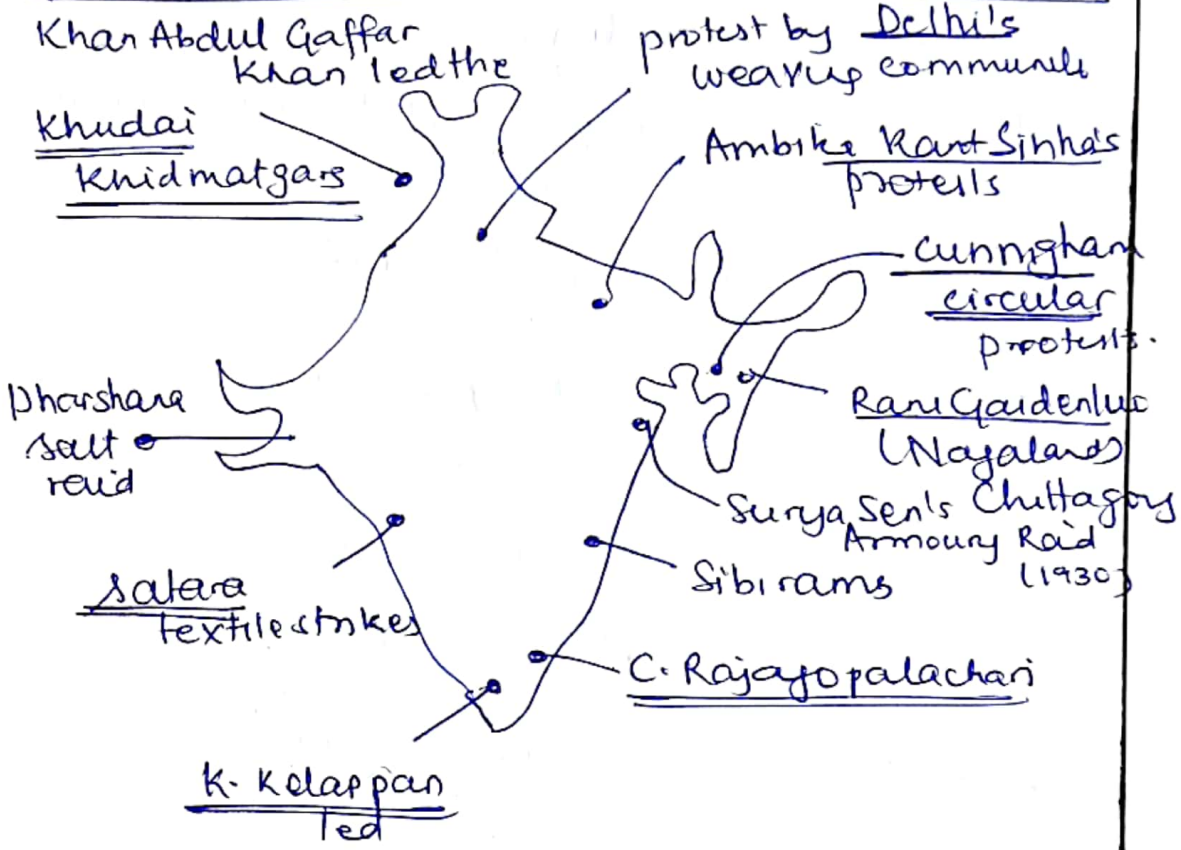
Regional spatial patterns of CDM — the movement spread to all corners of the country.



New mobilization Techniques

- mass mobilization was the key
- called for participation from all
- student bodies worked actively
  - (eg) Bengal Student Association

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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए Candidates must not write on this margin

- Women helped mobilise support
  - (eg) All India Women's conference leaders
- underground radios came up.
- secret newspapers to mobilise support
- messages were communicated from village to village via "rotis" ⟹ British could not track these.
- "salt" became the lighting rod of the movement consumed by both rich & poor.
- Revolutionary activities flourished (eg) under Bina Dutta, Kalpana Das.

The CDM marked the first time that Indians were viewed by the British as equals. It set the stage for the final phase of the freedom struggle.

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14. Sinking Islands in India's coastal regions have been seen all along India's 7500 km long coastal boundary thus highlighting the issue.

Causes of sinking Island

→ Global warming induced rainfall and melting glaciers

"Global warming has ended global boiling has begun"
— Antonio Gueterres.

→ Natural calamities exacerbate the issue

eg) 2004 Tsunami in Indian ocean.

→ Tectonic plate movements

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cause instability ⇒ sinking.

→ Death of coral reef ⇒ atolls suffers.

(eg) Andaman & Lakshadweep both have coral islands.

→ unsustainable land use practices due anthropogenic interventions.

(eg) Land reclamation as done for Mumbai expansion.

→ underground mining for rare earth minerals.

Implications of sinking Islands

Nation	Island community
→ India's aquaculture affected.	→ displacement of island communities
→ 'blue economy' faces trouble	→ they lose their livelihood

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→ Raises vulnerability to natural calamities which as per World Bank will cost us $1 trillion of our GDP by 2047

→ India's strategic projects under threat
(eg) Great Nicobar Project

→ further perpetrates poverty in an already vulnerable group

→ experience isolation

→ Inequalities created.

→ lose access to traditional resources

Need to study the phenomenon (eg) by MoES

Solution
- panchamrita
- Matsya 6000 mission can examine this challenge.
- vulnerability mapping.

Thus, the recommendation of Shailesh Nayak Committee can help save sinking islands

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15.

India's Dharmshala Declaration seeks to achieve a $1 trillion tourism sector by 2047. However, to reach this vision many regional constraints need to be addressed –

(i) Mountain Tourism (eg) Shimla

→ fragile ecosystem.

→ rampant, uncontrolled tourism raises natural disasters

(eg) Joshimath 2023.

→ Mahesh Mishra Committee warns against unsustainable tourism here.

(ii) Coastal regions and Ghats (eg) Ooty

→ Biodiversity under threat due to human–animal conflict caused by expansion of tourism.

→ Kasturirangan & Gadgil

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committee have called for sustainable use of these delicate ecosystems.

(iii) Plain areas (eg) Varanasi

- overpopulation.
- pollution of Ganges due to religious tourism has been pointed out
- NMCG also calls for sustainable tourism.

(iv) North East India (eg) Assam.

- Houses over 200+ tribal communities ⟹ interferences agitate them.
- 40-50% of ~~the~~ North East states are under forests.

(v) Desert (eg) Jodhpur.

- stress on already limited resource.

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(VI) Deccan Plateau

- tribal communities disturbed.
- contamination of ground water by unsustainable waste management.

Need of the Hour.

- private sector collaboration (eg) Adopt a monument scheme (SAHM)
- sustainable tourist practices
- technology to monitor tourist sites (eg) NISAR
- learn from Paris – largest tourist city in the world
- promote LiFE mission – circular economy in tourism.

By addressing these constraints, we can create a sustainable tourist economy with not just economic gains but also promotes India as "the grandmother of culture" – mark Twain.

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16. " If you destroy soil, you destroy a civilization ".

The above quote highlights the importance of soil management and the adverse impact not doing so can have.

Important Role Played by Soil for eco system

→ provides base for agriculture.
⇒ food security
⇒ eliminates hunger (SDG 2)

(eg) India has 46/60 global soil types
⇒ booming agriculture

→ Houses organisms and biodiversity
(eg) ants, snakes, etc.

→ Helps in nutrition cycles & energy cycles
(eg) nitrogen is fixed in soil
(eg) rain percolates to groundwater via soil.

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→ Filters waste out of water ⇒ prevents contamination of rivers, streams
└ curtails (bioconcentration).

→ Conserving soil ⇒ fauna supported
└ in line with Kunming montreal framework (2023).

→ Sustainable ecosystem is created with healthy soil.

(Significance of sustainable soil management).

→ To protect agricultural production which = 315 MT in FY23.

→ To prevent soil movement induced natural disasters
(eg) Joshimath landslide.

→ To recharge groundwater in line with National water Policy 2012.
(eg) As per World Bank, India is the largest groundwater user in the world.

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→ Soil is important for tribal communities and their traditions
(eg) Bishnois worship soil

→ Soil provides access to mineral resources.
(eg) mining contributes to 1.75% of our GDP

→ Soil of good quality ⇒ protects life on land (SDG 15)

Sustainable soil mgmt. techniques

- Implement UNCCD guidelines
- Regulate fertilizer use (eg) PM-PRANAAM
- use of bioswales, blue-green infrastructure (Mihir Shah Committee)
- rotation cropping
- drip irrigation

Conserving soil will not just protect our ecosystem but will also help achieve green growth — a Saptarishi target under Budget 2023.

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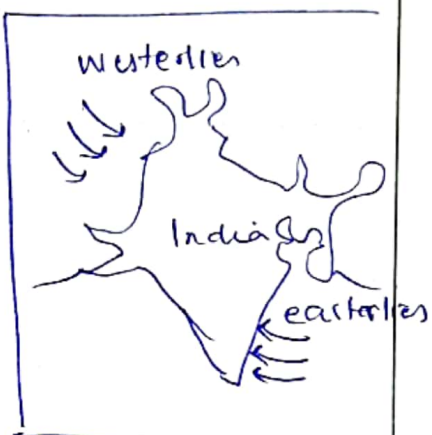
17 Jet streams are fast moving air currents at high altitudes that bring along with them various weather phenomenon.

Jet streams: Altering climate in India

① During winter:

→ Westerlies bring with rainfall during the winter months in Northern India.



JET STREAMS

→ Westerlies pick up extra tropical ~~cyclo~~ disturbances from the mediterranean sea.

⇒ enters India's western front.

→ (eg) Interaction between westerlies and trade winds ⇒ 52% excess rainfall in North India in 2023 (IMD)

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② During summer

→ Westerlies withdraw.

→ Easterlies enter India's southern space

→ Easterlies steer tropical depressions from the bay of Bengal into India.

→ Help attract South East trade winds from Southern hemisphere

⇒ monsoon!

Jet Stream : Altering World climate

→ Jet stream movements in Europe result in cold winters, mild summer.

→ Jet streams create drought like conditions in Western Australia & Western USA (California)

→ Jet streams create "China type of climate" in Eastern Asia..

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→ Jet streams also ~~create~~ ocean currents which affects global climate.

→ (eg) Westerlies cause cyclones in Arabian sea, Pakistan, Iran, and Middle East

Affect climate
⟹ agriculture impacted
" rain is the real finance minister of India"
– Pranab Mukherjee

Need to study Jet Streams

→ To respond to climate change better.

To regulate the impact of cyclones

(eg) Biparjoy 2023
Mocha 2022.

Thus, in line with Article 51A, a spirit of enquiry approach is needed to study & understand jet streams

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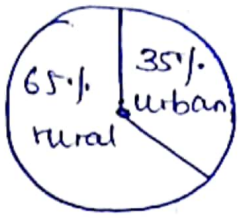
18. Slums are unorganised human habitation colonies that are often illegal and characterized by health, safety and hygiene hazards. 17% urban population in India lives in slums.

Factors responsible for slum formation

→ Rapid unplanned urbanization

villages → urban

→ population pressure
⇒ sustainable housing difficult to provide



Indian population

→ Haphazard development and lack of effective policy making.

Factors responsible for slum proliferation

→ urban poverty continues to be high

(eg) 5% urban pop. is poor
(NITI Aayog)

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परीक्षार्थी इस हाशिए में नहीं लिखेंगे
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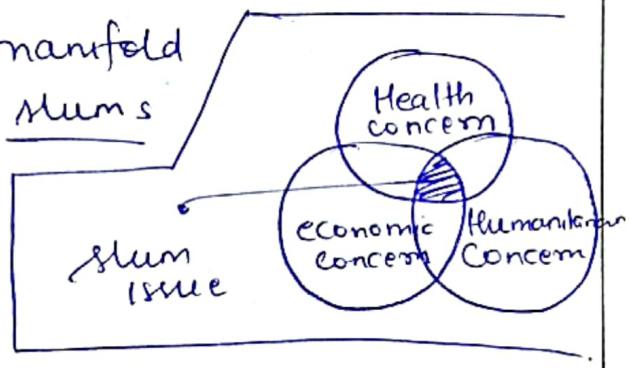
→ Government initiatives like PM-AWAS have had limited success as of now.

→ Humanitarian concerns prevent forceful slum evacuation drives
⇒ social justice at stake.

Need to revamp ISSR under PM AWAS

→ To address the manifold challenges in slums



→ Need for greater private sector participation

(eg) Adani group redeveloping Dharavi.

→ ~~Need~~ Slums continue to face many healthcare challenges

(eg) Dengue menace in Kusumpahar slum in Delhi

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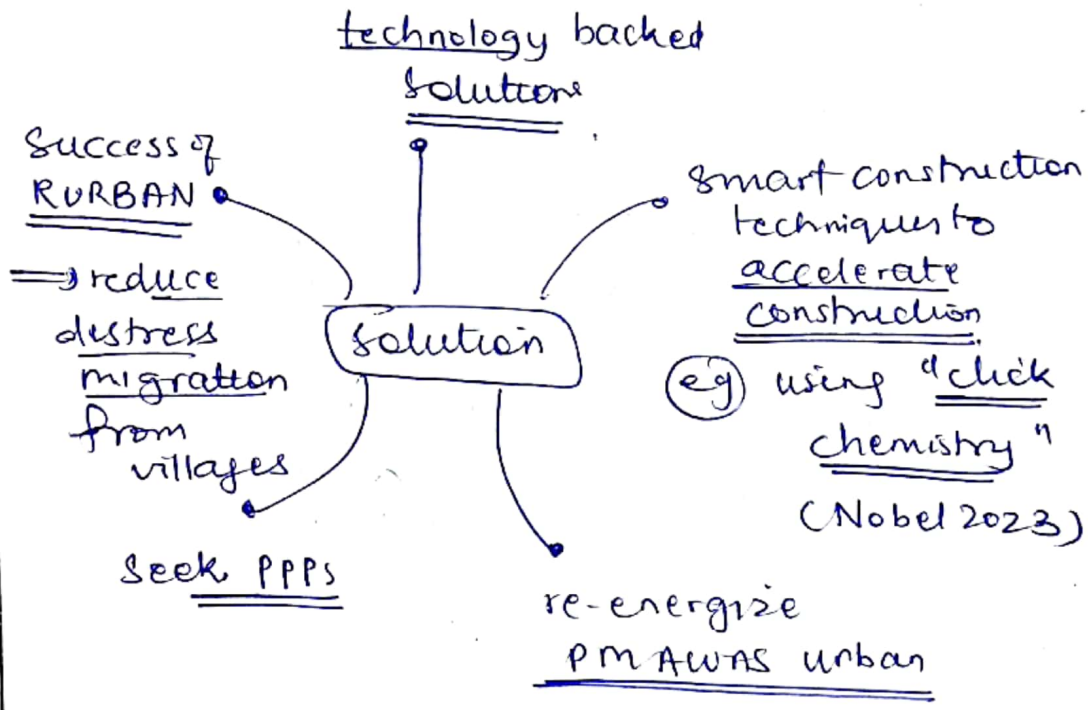
→ limited funding of ISSR ⟹ curtails efficacy.

→ ISSR does not effectively incorporate tech based solutions

→ Need for ISSR to ~~lea~~ seek inspiration from international best practices in slum redevelopment



This is line with Slum Rehabilitation Act 2014, slums need to be redeveloped to ensure inclusive and equitable growth (U/A 38) and sustainable cities (SDG 11)

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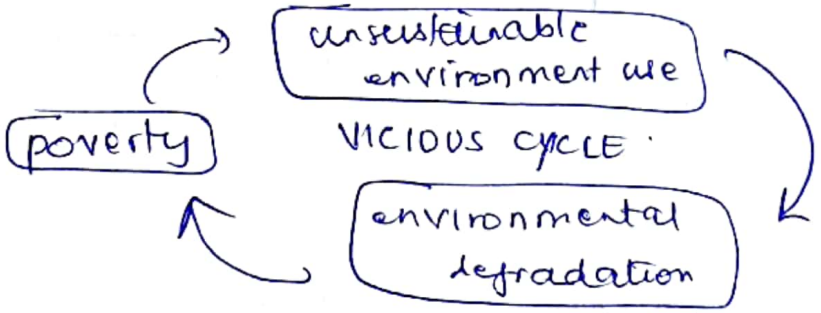
19. According to the World Bank - the world's global poor are most vulnerable to the adverse effects of environmental degradation. With 22% Indian population below poverty line (Tendulkar estimate), the linkages b/w environment & poverty become important.

Relation between poverty and environmental degradation in India



① Poverty as cause of environmental degradation:

→ continued usage of coal

(eg) India opposes EU's coal tax.

→ Tribal communities's practices

(eg) slash & burn.

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→ excessive fertilizer usage to raise yield on small ~~plots~~ plots of land

(eg) 86% Indian farmers own land lesser than 2 hectares in size.

(II) Poverty: Effect of envt. degradation

→ low soil quality ⇒ low agricultural incomes

(eg) As per NSSO, average farmer ~~sal~~ income = ₹10,000 in India.

→ ~~Red~~ Natural disasters induced by environmental damage ~~cause~~ cost us 2% of our annual GDP (World Bank)

→ Health cost (eg) lung diseases in Delhi.

⇒ healthcare burden.

Poverty reduction

Sustainable development	safeguard environment
→ Frees resources for investment in green	→ Allows reduction in environmental dependence

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energy (eg) → solar, wind, tidal	(eg) job creation in service sector
→ Helps ensure inter and intra generational equity	→ Adoption of envl. freindly practices (eg) Electric vehicles ↳ FAME scheme.
→ reduces inequalities in society.	→ Access to education ⇒ greater awareness about climate crisis

Solution for poverty

- Job creation (recommended by Arun maira)
- investment in education, health (eg) NEP 2020.
- Gradual move away from agriculture ↳ 45% labour force currently.

Thus poverty reduction (SDG 1) not only uplifts the poor, but also protects envt in line with PM Modi's words—

"Mata Bhoomi, Putro Aham Prithviya"

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20. Globalization is the merging of national economies & societies due to cross border movement of goods, services, people, and ideas, thus creating a global village

Globalization and Religion : possibilities

→ Helps spread religious ideas

eg ISKCON movement
Brahmakumars

→ Raising interactions between different religions

eg World Conference on Religion

→ ~~Helps~~ globalization ~~spreads~~ creates awareness about different religious practices

eg Awareness about Ramadaan - fasting month of Islam.

→ Religion as a tool of soft power in a globalized world.

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(eg) Diwali celebrations @ White House

→ promotes tolerance and love.

(eg) G20 nation's under India's Vasudhaiva Kutumbakam approach — all religions celebrated!

→ cross cultural learning (eg) International students @ Nalanda University

Globalisation and Religion : Challenges

→ Rise of extreme religious groups

⇒ terrorism

(eg) ISIS, Al Quaeda.

→ Religious backlash against globalisation induced migration.

(eg) Quran Burning in Sweden
Hijab ban in France

→ Rising xenophobia

(eg) Hindu temple defacement in Australia.

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- Religion induced [secessionist] forces aided by globalization.
  - (eg) Khalistani (Sikh religion) movement based out of USA, Canada.
- Allegations of "cultural appropriation"
  - (eg) Hindu gods & goddesses treated as Halloween costumes in the West.
- Globalization can induce hyper religiosity to protect identity.
  - (eg) Advocating return to casteism.

[Reconciling globalization & Religion]

- [Ranganath Mishra] committee recommends teaching people about diversity
- [Sachar] committee suggests anti discrimination law.
- CCIT (1996) to counter terrorism.

India needs to reconcile both and uphold the principles of Sarva Dharma Sambhava

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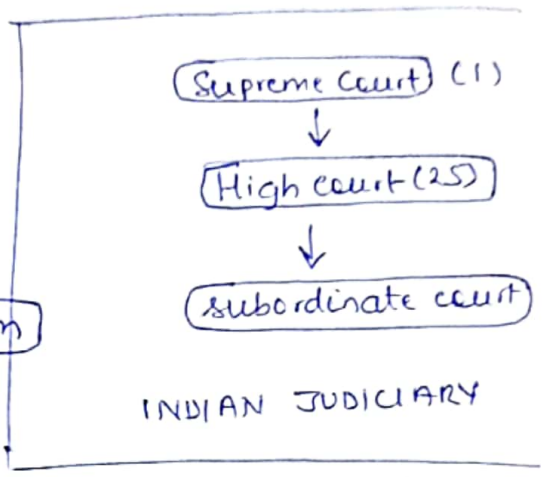
1. Judicial accountability refers to practices and processes that ensure that the judiciary is functioning in line with constitutional and democratic ideals.

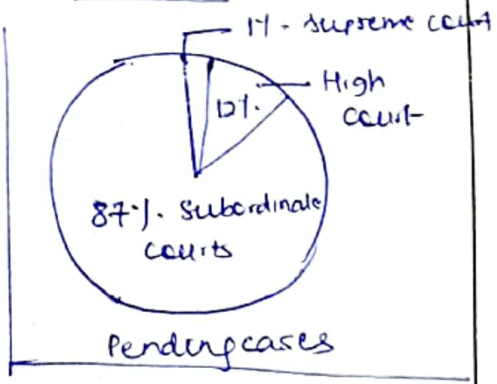


Need for New Law

→ Debate over collegium system of appointment which has been called opaque, arbitrary, closed door affair.

→ Unfilled vacancies across the judiciary.

→ Piling of pending cases. = 5 crore



→ Allegations of judicial over-reach.

(eg) Arjun Gopala case (2017) – supreme court exercised executive's power by banning firecracker in Delhi.

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→ Judges verdicts often come under scrutiny.

(eg) Dissent rate for Supreme court judges was only 1% during emergency in contrast to 11% normally.

→ Rising under-trials in Indian jails
⇒ raised demands for "Bail not jail" from judiciary.

(eg) NCRB 2020: 75% jail inmates in India are under trials.

The new law can ensure.
- → adherence to constitutional morality.
- → transparency
- → accountability
- → responsibility
- → justice → social, eco, political.

An accountable judiciary ensures effective access to justice which is a part of Constitution's basic structure as per Coal field's case 1980

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2. Fundamental rights (FR) (part III, Articles 12-35) and DPSP (part IV, articles 36-51) are two crucial components of the constitution that ensure political rights and socio-economic rights respectively.

(Reconciling - A Tough Task)

→ Sajjan Singh Case : ~~conc~~ (1951)
- FR can be amended to implement DPSP.

→ Dorairajan case (1960)
- FR can not be overturned to implement DPSP.

→ Golaknath case (1968)
- reiterated the verdict of the Dorairajan case.

Indira Gandhi led government introduced an amendment placing FR subordinate to DPSP ⟹ challenged in court -

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उम्मीदवार को चेतावनी: परीक्षक द्वारा चिह्नित Candidate must not write on the margin

→ Kesavnanda Bharti Case 1973

- deemed the amendment null & void.
- Established that judicial review based on FR is a part of the basic structure.

→ Minerva Mills Case 1980

- established that the constitutional rests on a bedrock of balance between FR and DPSP.

In the present day, both FR and DPSP hold a unique but distinct role.

Each plays its part in the creation of a vibrant government and society in the world's largest democracy. by ensuring a govt –

"of the people, by the people, for the people" — Lincoln

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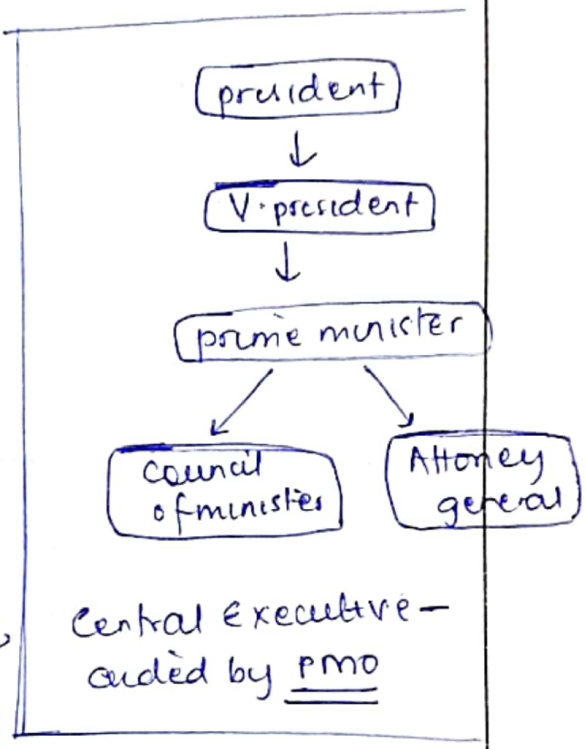
3. The Prime Minister's office is a government body that functions as a secretariat for the PM's activities.



Functions.

→ coordinates activities on behalf of the PM.

→ sets meetings, timelines, and agenda pertaining to PM interactions.

→ coordinates with other ministeries to aid the functioning of PM.

(eg) PMO collaborates with MEA during foreign visits by PM.

→ Caters to everyday tasks like document filing to aid the constitutional processes

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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Role in policy making.

→ Many PMO positions are held by senior civil servants of the All India Services (A 312)

→ They provide inputs into the policy making process.

(eg) EWS Amendment Act policy framework.

→ They provide frameworks on which elected executive members build policies.

→ ~~Their~~ Collate different suggestions, and influence policy decisions.

(eg) NEP 2020.

PMO thus ensures that the PM's role as head of government continues seamlessly.

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4. Section 124A of the IPC pertains ~~with~~ to sedition law - which charges people who incite violence against or attempt to overthrow the government : It was introduced in colonial era on recommendation of Macaulay Commission

Need for re-examination
- remnant of British era.
- originally meant to suppress colonial ~~suppr~~ dissent.
- Law Commission has also debated its need.

Striking a Balance

→ Civil liberties & human rights should not be compromised.

(eg) Article 19 - guarantees freedom of speech & expression

→ Should not be used to quell dissent against government → as per supreme court ruling.

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- In Kedar Nath vs. State of Bihar — court held that sedition should only be used in exceptional cases

- Allegations that sedition is used to target individuals

  (eg) Congress' protests on arrest on comedian Kunal Kamra.

However.

- Sedition law helps seeds out anti-national elements (eg) Khalistani forces
- Needed to maintain harmony in country
- Acts as a reasonable restriction on Article 19 — rights are NOT absolute!

In line with this discussion, the new bills introduced in monsoon session of parliament 2023 seek to remove the provision of sedition from Indian law.

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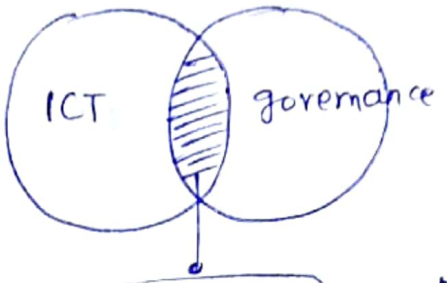
5. E-governance refers to the use of ICT to enhance the efficiency, transparency, and accountability in governance structures.

Citizen participation



e-governance eg: DBT scheme

→ Can ensure that e-governance initiatives reach their full potential

(eg) Only 2 crore ~~NOF~~ farmers registered on e-NAM currently.

→ Can help weed out corruption in rural economic system and leakages too.

(eg) Computerization of PRIs in Andhra Pradesh ⇒ 80% MGNREGA wages paid on time.

→ Participation ⇒ intended beneficiaries will gain.

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(eg) Schools in rural areas need to use e-VIDYA portal.

→ W/o participation, e-governance initiatives will not meet their goal.

(eg) Ayushman Bharat Digital Mission.

→ Will help mobilize 65% Indian pop. in rural areas

(eg) Adoption of UPI payments.

However, concerns
- 600 million Indians do not have internet access
- only 30% Indian women use smartphones ⇒ gender divide

Solution
- Bharat Net – has spread fiberization to 400,000 miles across India
- PM-Jan Dhan – to meet goal of 100% financial inclusion.

These solutions will help India tap into the marvels of the 4th Industrial Revolution technologies to create citizen centric governance

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6. The Aspirational District programme of NITI Aayog focused on 112 least developed districts in India with the aim of accelerating their ~~progress~~ growth.

Objectives achieved

- NITI Aayog has reported that most districts reported rise in income level.
- ~~co~~ competitive federalism (via NITI Aayog ranking of aspirational districts) achieved.
  - eg Jaisalmer topped 2022 ranking
- One district - one product → a success!
- In LWE affected districts, violence fell by 75% in last decade.
- idea of welfare state met (u/A 38)

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However, concerns remain

- recent clash in aspirational district (Nuh, Haryana) ⟹ scope for improvement.
- Districts continue to lag behind other districts.
- Human development indicators are still below national average.

Solution

- prevent communal violence through POCV Act 2002 (eg)
- tech based reforms (eg) Aadhaar seeding of ration card.
- contain LWE (eg) Samadhaan doctrine
- education, health → should be focus.

Success of Aspirational District is needed for social, economic & political justice (preamble) & to meet the Gandhian ideal of Sarvodya through Antodya

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7. NGOs refers to non government & not for profit organization that work towards a social cause. India has 3-3 million NGOs

Role of Technology — ~~Advancing~~.

→ Enables ~~enhance~~ better connectivity with beneficiaries

(eg) online educational surveys of PRATHAM.

→ enhances communication.

(eg) Goonj NGO using social media for disaster relief.

→ Helps in efficiency in work

(eg) Bachpan Bachao Andolan using data to track child labour rings

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→ Beneficiaries provided with new aids

eg Old Age India NGO – provides older people with new tech to keep them engaged, like mobiles.

→ Helps spread awareness

eg MEER foundation using online communication channels to raise awareness about acid attacks.

→ For monitoring progress.

eg PETA & TRAFFIC ~~for~~ using drones to track animals

NGOs are a part of the nation's social capital and must be developed as the operational arm of civil society.

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8. The NEP 2020 envisions the setting up of foreign educational institutions in India under the pervieu of the UGC (est. 1952)

IMPLICATIONS

postive

→ Facilitates knowledge diplomacy

→ prevents brain drain.

→ reduces outflow of students

⇒ forex saved.

negative

→ commercialization of education

→ further societal divide since only rich can access

→ No caste reservation clause

⇒ social justice hampered

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→ New ideas, synergy

→ Will help raise R&D above 0.7% of GDP.

→ Will help reduce pressure on Indian universities

(eg) reduce their high cutoffs

→ may push Western agenda on Indian students.

→ Will not use vernacular languages.

→ Will hinder traditional 'Guru - Shishya' parampara.

Thus a slow and cautious approach is needed keeping in mind -

"future of nation is built in her classrooms"

— Rothari commission

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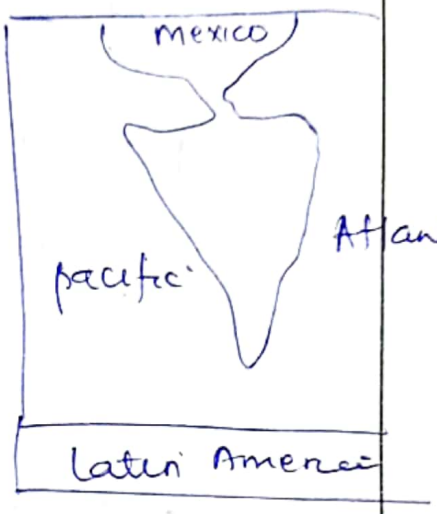
9. The Latin American nations consist of the Spanish speaking countries in central & South America -



Critical element

→ presence of mineral deposits.

eg Lithium in Chile

→ Rare Earth Minerals ⇒ helps in China +1 strategy.

→ Oil in Venezuela ⇒ diversification of oil basket.

⇒ imp. post Ukraine war.

→ common climate change adversary

eg both have opposed ~~wealth~~ coal tax.

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- cooperation in G4, BRICS etc
  - → can be taken to next level.
- Global South connect.
- Latin America has raised concerns w.r.t CCIT (1996)
  - need to get them on board.
- presence of Girmitya community
  - ⇒ rich Indian diaspora.
- Similar challenges
  - poverty
  - inequality

  scope for collaboration

concern
- instability in the region
- China making headway

India should continue this relation in line with our G20 theme Vasudhaiva Kutumbakam

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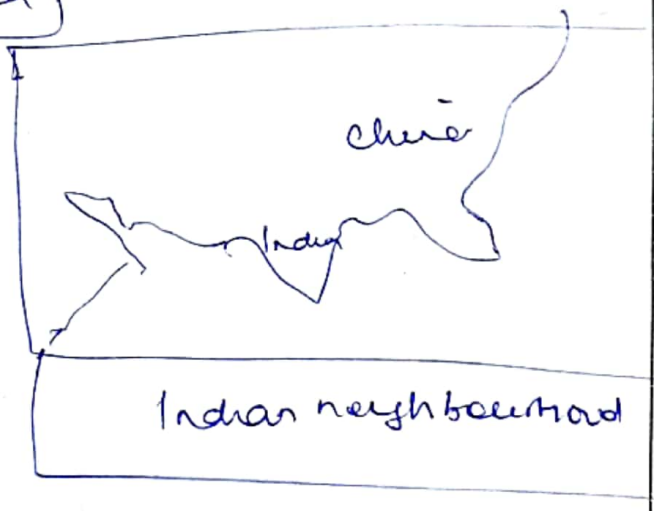
10. Dept trap diplomacy is a form of neo-colonialism in which China provides nations with highly subsidized loans which these nations are eventually unable to repay, thus strengthening China's hold over their economy & decision making

Impact on India

- Pits Nations against India.



(eg) Pakistan debt to China

- Strengthens their BRI initiative

(eg) in Nepal :

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- countries' sovereignty dilutes
  - (eg) Sri lanka in debt trap to China.
- Instigates nations against India.
- Instability in the region
  - ⇒ "common security" affected
  - ⇒ "shared property" under threat.
- India has countered with
  - diamond necklace strategy
  - development partnerships
  - vaccine maitreyi goodwill

India has continued cooperation in its neighbourhood via ~~SAGAR~~ ~~SAGAR~~ "Neighbourhood first policy".

further collaboration in SAARC, BIMSTEC, BBIN will helps counter china.

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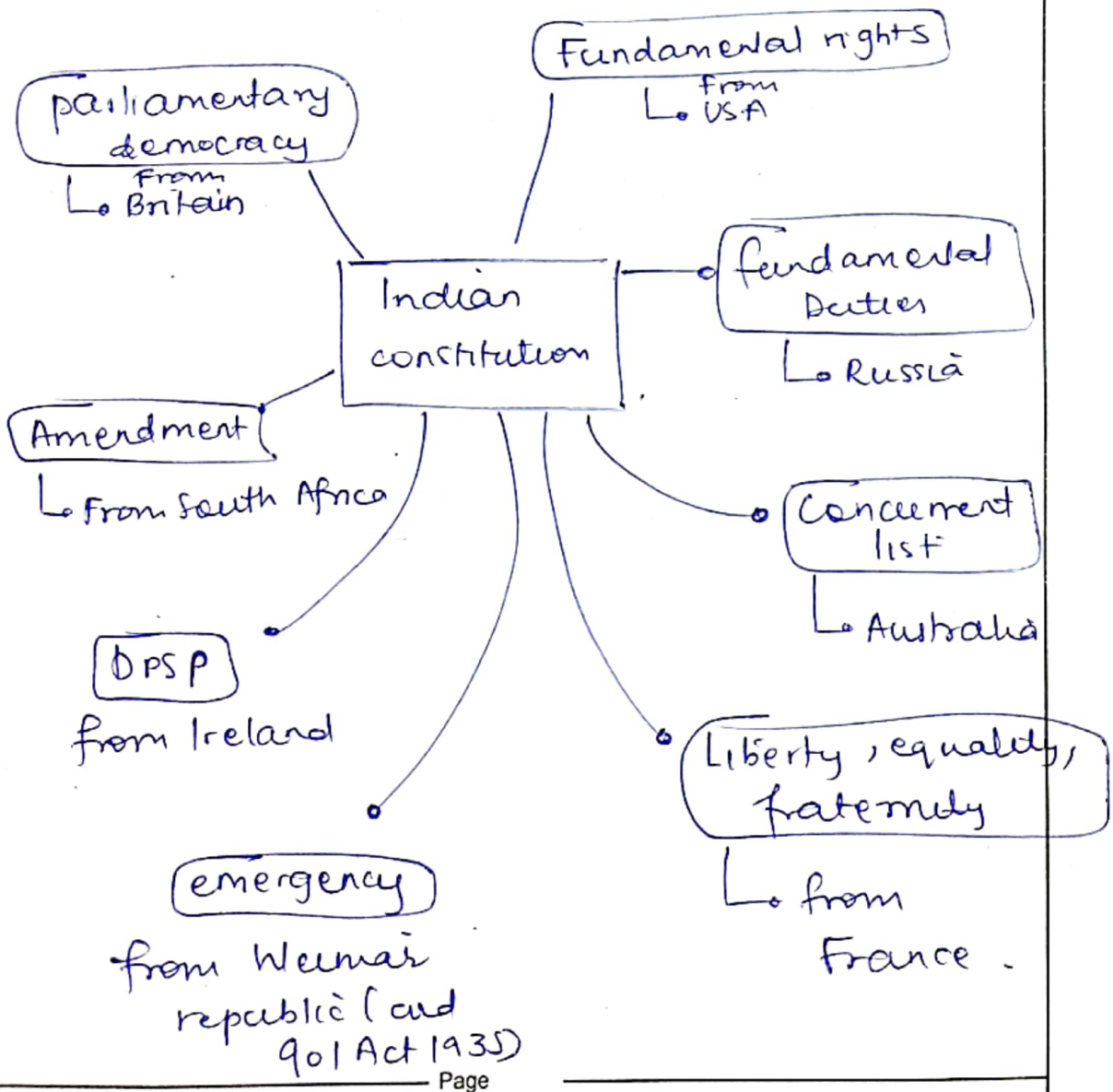
11. The Indian constitution - which has also been called a "borrowed constitution" (due to its incorporation of other constitutions) - stands out because of its focus on social justice, pluralism, and equality.

Amalgamation can be seen as below -



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Thus. Dr Ambedkar — father of Indian constitution said that all constitutions were ransacked and their best features were added to the Indian constitution

Social Justice

- mentioned in preamble.
- Article 38 : creation of welfare state and Article 39 → have provisions to ensure that social justice is delivered.
  ↓
  equal rights & opportunities to all sections

Pluralism

- marked by presence of diversity.
- Indian constitution upholds the "unity in diversity" principle.
- Articles 25-28 — Religious freedoms
- Article 29-30 — minority rights protected.

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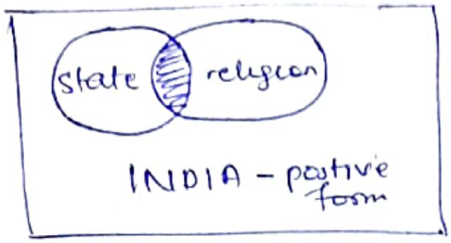
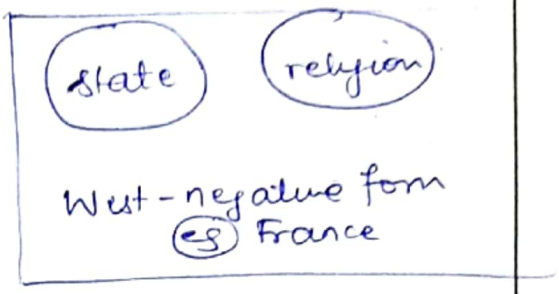
→ Indian secularism is of positive form.
⇒ encourages pluralism.





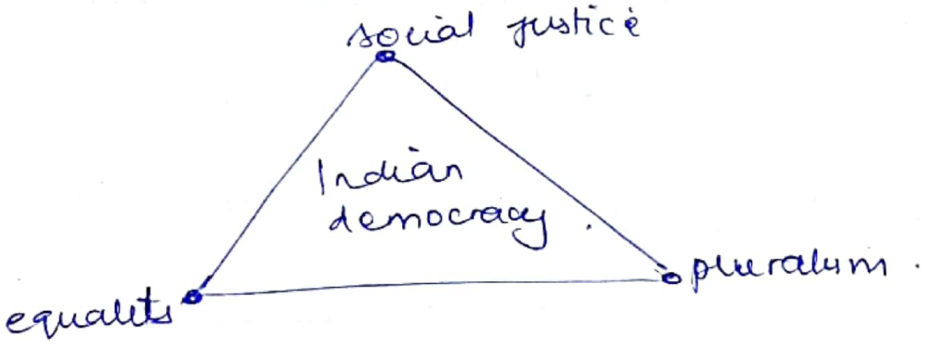
Equality

→ of status and opportunity (preamble).

→ Article 14-18 – Right to equality

→ Article 46 – catering to needs of SC/ST to ensure equality.

→ Articles 51A – gender equality
– renounce practices derogatory to women.



To take forward the vision of Dr. Ambedkar, young Indians should uphold constitutional morality to build a robust democracy in the Amritkaal.

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12. Debates in parliament and in civil society have brought to the forefront the demand to criminalize marital rape. in line with the vision to ~~den~~ renounce practices derogatory to women (u/A 51A).

Implications

① POSITIVE SIDE

→ Women empowerment in line with SDG 5 (gender equality)

→ In line with Puttuswamy case verdict which ~~held~~ upheld ~~the~~ a women's right to bodily autonomy.

→ Will deter violence within marriages
⇒ ~~to~~ strengthens prevention of domestic violence act 2005.

→ In line with Kant's categorical imperative that women are not means, but an end in themselves

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- enhance Nari shakti
- shift in societal attitude towards women
  ⇒ viewing them as equals.
- Ensure constitutional vision of gender equality (u/A 14, 15, 16) are upheld in letter & spirit.

NEGATIVE IMPLICATION

- Fear that marriage as a sacred institution & family as a sacred unit will come under threat.
- Belief that it will raise divorce rates.
- Can allegedly be misused.
  (eg) Kolkate high court recently asked a woman to not wage 'legal terrorism' against her husband with misleading cases

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- Traditional conception of marriage will alter → concern raised by some

- Belief that such a law will disproportionately affect Hindu marriages

- Allegations that demand for marital rape criminalization is a 'western' though that is against Indian ethos.

Thus, while the debate around implications of criminalization of marital rape continue, we should keep in mind societal sensibilities while also remembering Swami Vivekananda's words —

"no nation can fly with one wing tied".

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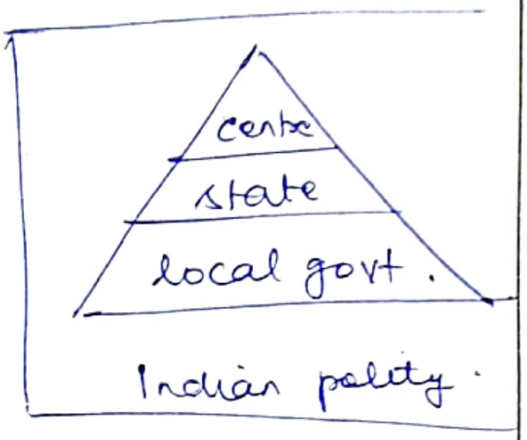
13. Indian model of federalism has been derived from the GoI Act 1935 and inspired from Canadian polity to create a state that is federal in form, but unitary in spirit

Too centralized



- constitution envisions India as a union. and not federation (Article 1)

- Punchi & Sarkari Commissions noted - "Too much centralization leads to blood pressure at the centre and anaemia in the periphery"

- Over 100 + president rules imposed (u/A 356)

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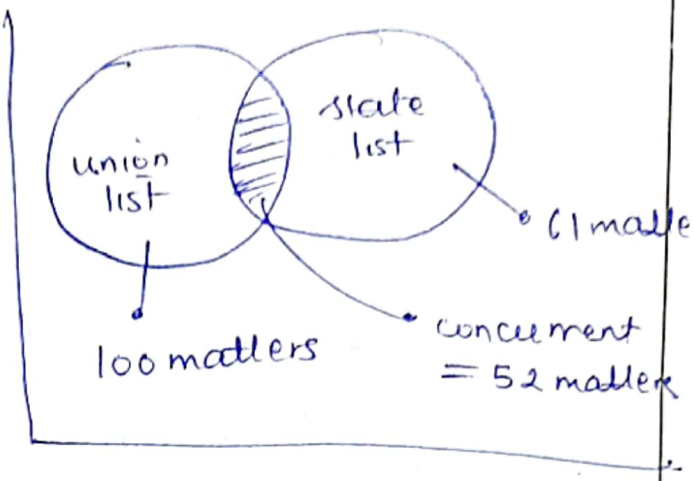
- Union list is much larger than state list



- Integrated judiciary, unlike USA
- Recent ~~con~~ tensions b/w Delhi govt and centre ⟹ accusations of over centralization.
- Governor can be removed at president's will.
- Space for state autonomy
- State list subjects ⟹ union can not interfere w/o Rajya Sabha approval.
- Independence of judiciary
- State can contest centre's decision in court (eg) Delhi govt. demanded right over services of Delhi.

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- Governor's decisions must be in line with the decisions of elected state govt as per Nabam Rebia case

- State emergency can not continue beyond 1 year w/o either Election commission approval or presence of national emergency.

To strengthen federalism
- leverage Inter-state council (Article 263)
- Strengthen All India Services (A 312)
- promote cooperative federalism
  - eg NITI Aayog, GST council.

A strengthened federal structure will allow for enhanced democratic functioning while ensuring -

"Ek Bharat, Shresth Bharat"

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14. In the Anoop Baranwal case, the supreme court held that the ECI will be appointed by a president on recommendation of a panel containing

- Prime Minister
- Chief Justice of India
- leader of opposition in Lok Sabha

Fundamentally changed

- previously, centre would appoint ECI
- Concerns were raised w.r.t impartiality of ECI.
- eg Since 2004, no ECI has completed a 6 month tenure
- Hence Supreme court felt need for fundamental change

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(For reaching implication)

- Will ensure (unbiasedness) of ECI.
- will create an atmosphere of trust -
- opposition parties' allegations that ECI was being used ~~for~~ to favour ruling party will be allayed.
- Opens doors for the changing of appointment process of other constitutional posts

  (eg) Speaker of Lok Sabha.

  CAG (Article 148).
- Will uphold the Election Commission - as enabler of elections -

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Concerns
- allegation of judicial overreach.
- centre has demanded that CJI not be included in the panel.
- changes a well established procedure

Further reforms needed to strengthen electoral process.
- lay down qualifications for EC.
- debar EC from post retirement jobs → constitution is silent on this.
- incorporate new tech into election (eg) remote voting machines.

These measures will ensure free & fair elections (basic structure) in line with Article 324 of the constitution..

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15. The Indian civil services which were envisioned as the steel frame of Indian admin, ~~are~~ is undergoing a period of change marked by new trends & challenges

Indian civil services

- All India services
  - 4/A 312
  - eg: IAS.
- Central services
  - eg: IFS.
- State services

Diversified challenges

→ New issues (eg) Rising inequalities
(eg) Oxfam: Top 1% Indians hold 40% wealth.

→ Need for technological competence.
(eg) use of AI tools.

→ digital threats (eg) cyber warfare.

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→ alleged degradation of ethics

(eg) corruption scandals < IAS Pooja Singhal, IRS Sameer Wankhede.

→ Global culture infiltrating India.

(eg) 'Sir/ma'am' culture of workplace being replaced by 'first name' culture. ⇒ challenges hierarchy & protocol in ICS.

→ poverty has sustained in open economy (eg) 22% BPL as per 2011 Tendulkar estimate

Holistic Reforms

→ Hota committee recommendation of incorporating new technology in ICS should be considered

→ Consider merit based promotion

(eg) in Singapore civil service

→ 2nd ARC recommended that a

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Code of ethics should be implemented.

eg in US civil services

- Civil Services Bureau — an independent body to regulate transfers can be set up.
- Lateral transfers — move in right direction.
- Mission Karmyogi — to equip civil servants with 21st century skills.
- pecuniary benefits to reward good work → as suggested by 6th pay commission

These measures will allow civil servants to ensure efficient service delivery & uphold national unity and cohesion in line with the vision of Sardar patel

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16 Open data policy ensures that non-sensitive government databases can be shared with the public to ensure greater transparency and accountability in e-governance structures.

ROLE.

→ Aids the RTI Act 2005 which the 2nd ARC called the 'master key of good governance'

→ Encourage jan bhagidaari in policy making.
eg citizen using open data to spot trends → frame policy suggestions → send to govt.

→ Check against fudging in government databases ⇒ helps spot corruption.

→ ~~Any~~ Open data ⇒ citizens can raise concerns in e-governance

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(eg) Data pertaining to vaccination numbers of Arogya setu & COWIN app.

Challenges : Quality

→ large data collection i.e BIG DATA is challenging.

→ Need for ~~domestic~~ better data cleaning technology

(eg) removing duplication in data entries.

→ Technological advancements needed.

(eg) use of AI backed data analytics.

→ R&D is limited.

(eg) R&D expenditure as percentage of GDP
- India = 0.7%.
- China = 2.1%.

Challenges : Reliability

→ Need for domestic data localization centres

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- susceptible to cyber attacks
- Sensitive data is not shared ⇒ incomplete data.
- Many data sets are old & outdated.

⇒ need for up to data sources

Solution

- collaborate with private firms
- learn from international best practices
  - eg) US government's use of Amazon Web Services
- Raise R&D expenditure

It is said that in the 21st century,

"Data is the new oil"

Hence, open data policy should be fine tuned to enhance e-governance structures in India & their accountability.

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7.

Maternal nutrition - both pre natal and post natal - will help combat the zero food children phenomenon witnessed in India.

Zero Food children issue is exacerbated by

- Global Hunger Index ranking of India = 107/121 in 2023
- UNFAO - 1/5 of all undernourished children are in India
- India has 1/3 of the world's wasted and 1/4 of the world's stunted children as per UNICEF

maternal nutrition

- pre natal nutritious diets
- post nadal regular checkups

Maternal health is the primary determinant of a child's health.

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Maternal Nutrition : Need to make Priority

- 57% women b/w 15-49 years in India are anaemic (NFHS-5)

- Mother's ill health has direct implications for children.
  - (eg) via reduced access to breast milk.

- ICMR has shown that a child born to an underweight mother is twice as likely to develop health problems

Maternal Nutrition : How to make it a priority?

- Strengthening of NFSA 2013 - in letter & spirit.
  - (eg) NFSA provides ₹6000 worth of monthly meals to pregnant & lactating women.

- Janani Suraksha Yojana.
  - focuses on maternal health.

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- SUMAN – scheme targeting maternal wellbeing can be leveraged.
- Aasha & Anganwadi workers can be trained to provide info and raise awareness w.r.t maternal health.

However, apart from maternal health, other initiatives are needed too to end the zero food children issue –

- preventing PDS leakages → pointed out by Wadhwa committee.
- "One Health" initiative to provide continuum of care to citizens.

Healthy ~~childr~~ mother ⟹ Healthy child ⟹ Healthy India SDG 3

After all, as Winston Churchill said – "health of citizens is greatest asset of a nation"

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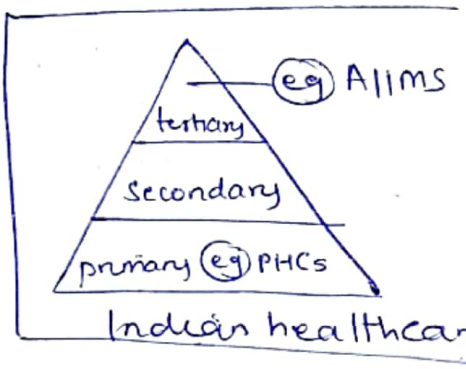
18. Rare diseases are those diseases which impact a very small proportion of the population, usually < 1 in 1 million.

(eg) Osteogenisis imperfecta i.e brittle bone disease.

Concerns w.r.t Rare Diseases

- **Limited diagnosis** ⟹ many rare diseases go untreated.

- **Tertiary hospitals** where rare diseases are studied are out of reach for poorer sections.



(eg) AIIMS, JIPMER, etc.

- **Funds** allocated to rare disease study is limited.

(eg) Only 2.1% GDP is spent on health.

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- Healthcare network is already burdened by "common diseases"
  - (eg) India has 1 doctor for 834 patients
  - (eg) Indian hospitals : 5 beds / 10,000 people.

- Expertise in the field is limited.

- Expensive treatment processes
  - (eg) 58% healthcare spending in India is out of pocket.

- Societal stigma ⇒ isolation of such patients.

- Focus on generic drugs ⇒ not catering to rare disease needs

Resolution

- Raising awareness amongst — patients, doctors, citizens.

- Raising R&D expenditure to 2% of GDP in line with global average ⇒ for breakthroughs in rare disease treatment

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- National Health Policy : suggested raising health expenditure to 2.5% of GDP ⟹ ensures greater rare disease treatment facilities.

- Ayushman Bharat can have special provision for rare disease patients.

- Technology like nano-robots, gene editing → can be explored for solutions.

- International collaboration with Israel, US, etc ⟹ healthcare diplomacy

- Biological Data centre @ Haryana — recently opened. Can be used to study rare disease genetics

By combatting rare diseases, we will protect citizen's right to Health (U/A 21) and ensure the creation of a welfare state that believes in —

"Sabka saath, sabka vikaas"

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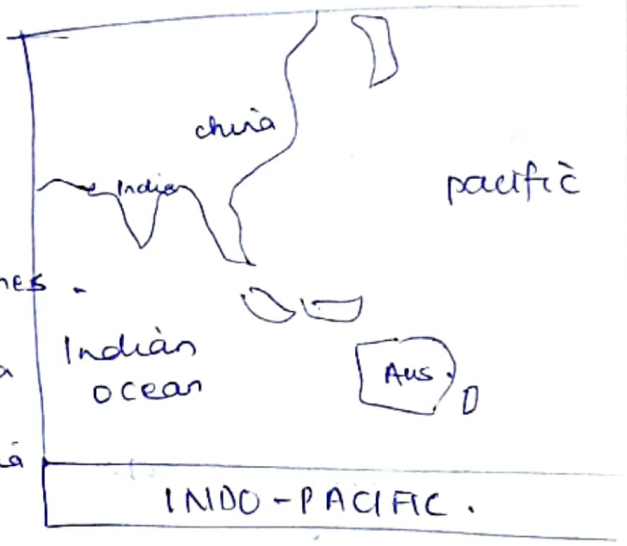
19. The Indo pacific region - which holds 60% of world GDP and 60% of world's maritime trade is the next big hotspot of international geo-politics due to the presence of many major world powers like India, china, and US in the region.

Various Countries with stakes
- US
- India
- China
- Japan
- Australia
- Russia
- others.



Need for realistic & effective collaboration.

- Territorial disputes.
  - eg Spratly Islands.
- China's string of pearls ⇒ wolf warrior diplomacy.

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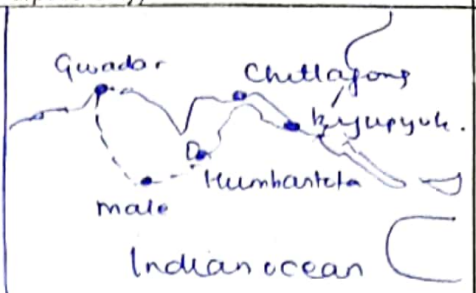
- presence of rare earth mineral
  - eg uranium in southchina sea.



String of pearls

- chokepoints
  - eg Strait of Malacca ⟹ trade can be threatened!
- US activities in the region
  - eg US supporting Taiwan.
- Potential rise in future importance of Indo-pacific due to opening of Silk route via Arctic ocean.

Need to acknowledge intention

- conflicting intentions
  - eg India – open, free Indo-pacific
    China – expansionist policy
- To prevent breakout of violence

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(eg) China's "silkworm strategy" to envelope Taiwan => raising global concerns.

- To protect India's sovereignty
  - (eg) Chinese ships in indo-pacific region illegally entering Indian waters.
- for effective collaboration w.r.t the region's natural resources.
- For coordination b/w the various multilateral forums in the region
  - (eg) QUAD, ASEAN, AUKUS etc
- To promote peace & understanding in line with Panchsheel & Article 51.

India's Intentions in the region are to create an free, open, rules based Indo-pacific region. For this it, should continue to collaborate with QUAD, FIPIC, etc.

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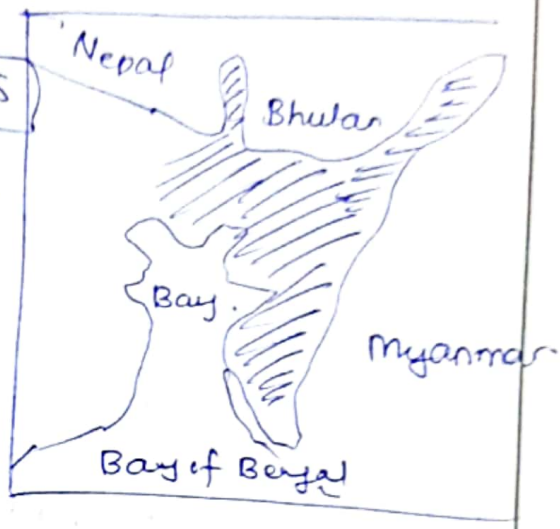
20. The North Eastern Region (NER) makes up 8% of the country's land mass and houses 4% of Indian population. It can serve as a gateway to ASEAN & East Asia



INTERNAL CHALLENGES

- ongoing Kuki-Meitei dispute in Manipur.
- secessionist forces
  (eg) ULFA, NSCN
- regionalism : demand for new states.
  (eg) Bodoland in Assam.
- Assam Rifles are occupied by counter insurgency operations
- Resistance against AFSPA.
- Protests against CAA, NRC
- development deficit (eg) average TFR in India = 2 ; in Nagaland = 3
  ⟹ alienation
- Over 200+ tribes in NER ⟹ need for emotional integration.

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External Challenges

- Open movement regime (upto 16 km) with Myanmar ⇒ porous border.
- China & Pakistan backing secessionist forces
- Drug trafficking via Golden Triangle.
- Illegal immigrants (eg) Rohingyas from Myanmar.
- Coup in Myanmar ⇒ instability in the region
- Bangladeshi terror groups like Mujhaideen operating in NER.
- Money laundering via borders
- China's upper riparian control over Brahmaputra waters ⇒ frequent floods created.
- Human & animal trafficking

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Pivotal connecting space — A peaceful & harmonious NER ⇒

- Effective completion of Trilateral Highway — India, Myanmar, Thailand
- Kaladaan can be used more effectively
- land routes to ASEAN will be strengthened.
- Access to Bhutan will become easier
- Trade with Bangladesh will flourish
  ↳ our biggest trade partner in region
- Fillip to BIMSTEC, BBIN etc

Hence, as PM Modi said — "we need to act first for NER, act fast for NER".

De-VINE scheme is a move in right direction to turn NER into a pivotal connecting space.

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उम्मीदवार इस हाशिए में नहीं लिखेंगे
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1. With a 536 million strong livestock, India has the largest number of livestock ~~of~~ in the world which contributes to about 5% of gross value added in agricultural GDP.

Women contribution

→ According to Livestock census 2019, women are the primary caretakers of livestock in most rural households

→ In the 75% of rural households that own livestock, women engage in milk collection, cattle cleaning, grazing, etc.

→ "Pashu sakhis" are women-led SHG groups that aid livestock rearing initiatives.

→ cooperative societies like AMUL & Nandini also see active women participation in livestock rearing.

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Issues Faced

→ Productivity of Indian livestock is about 50% lower than world average.

⇒ women need to work harder to obtain same results.

→ lack of training & capacity building

(eg) National livestock mission aims to tackle this

→ low adoption of technology ⇒ high manual labour needed.

→ Low access to medical aid for livestock.

(eg) Frequent diseases < Black Quarter, foot & mouth disease.

In line with Article 48, there is a need to adopt technological innovations in livestock sector to ease burden on women

⇒ inclusive growth.

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2.

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2. The ONORC scheme aims to create a national interlinked system via which a person can access PDS and ration facilities from anywhere in the nation provided they have their Aadhaar card.

How it will benefit.

→ migrant workers will gain

(eg) During march 2020 lockdown, 40 million migrant workers left cities.

→ Urban poor who make up 19% of urban population (NITI Aayog) will gain right to food in line with NFSA 2013.

→ Daily wagers will be insulated against wage fluctuation affecting their nutritional intakes.

→ It will also ease intra country migration.

→ Shanta Kumar committee also supported this system.

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To what extent?

It will only be fully efficient if some caveats are plugged –

→ Need to identify ration beneficiaries better.

(eg) As per CAG, 51% PDS beneficiaries have not been correctly identified.

→ leakages in PDS system ⇒ will reduce ONORC's effectiveness as noted by Wadhwa Committee.

→ Aadhaar seeding of ration cards needs to be accelerated first ⇒ better collaboration with UIDAI required.

→ Awareness generation needed.

→ Tech adoption will boost the initiative. (eg) As seen in UP's ration system.

ONORC can help achieve zero hunger (SDG 2) and ~~in~~ meet India's vision of being a welfare state (u/A 38) that caters to needs of the least well of sections.

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3. According UN chief Antonio Gueteresi-

"Global warming has ended
Global boiling has begun".

This climate change is bound to affect Indian agriculture which makes up 16% of our GDP and 45% of our labour force.

Agricultural production & productivity

→ As per Economic Survey 2020, the average annual real rate of growth of agriculture has stagnated in recent years.

→ Ashok Gulati notes that climate change is one of the reasons why India's crop productivity is 50-100% lower than China for most crops.

→ Climate change ⇒ water sources drying up.
⇒ rain impacted. ⇒ agri impacted.

eg 52% Indian agriculture is still rainfed.

→ Natural disasters due to climate change
⇒ crops affected → PM-FBY

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Climate smart water technique, need of the hour since –

→ 90% groundwater extraction is attributed to agriculture ⇒ unsustainable.

→ Water guzzling crops like rice & wheat are destabilizing enviroment.

→ Israel's success with drip irrigation ⇒ inspiration for India.

→ National Water Policy 2012 encourages use of water saving tech in agriculture.

→ National Mission on sustainable Agriculture (2010) also highlights need to make water efficiency a priority.

Thus, in line with RBI's recommendation, a second Green Revolution which uses water smart tech and biotech ~~ecu~~ is the need of the hour to combat climate change threat.

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4. Nanofertilizers leverage nano-technology to enhance the efficiency fertilizers to boost agricultural production which stands at 315 MT in FY23.

economic

→ Needed in smaller amount ⇒ lower cost

→ Long lasting impact on soil

⇒ replacement cost lower.

→ can boost nanotech & R&D sector in India which is only @ 0.7% of GDP currently. (target = 2%)

→ Fillip to "Bharat" fertilizer scheme.

environmental

→ lower use ⇒ soil quality maintained.

→ Their use encouraged by soil health card scheme

→ in line with PM-PRANAM

→ soil erosion is minimized

→ groundwater contamination due to fertilise leaching kept under check

→ methane emissions from traditional fertilizers is reduced.

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Concerns

→ High initial costs of development of nano fertilizers ⇒ diverts funds away from other agri investments (eg) canal construction

→ Belief that nano-fertilizers can penetrate food ⇒ bioconcentration

→ Concern that soil biodiversity and local fauna will be impacted
⇒ violates Kunming-Montreal framework (2022)

→ low awareness w.r.t how to use them

→ Can enhance agri divides since rich farmers may benefit more.

Gradual adoption of nano-fertilizers complemented by confidence building measures amongst farmers can allow for creation of a robust agro-economy

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5. Natural gas is a crucial economic input in many activities. due to which ~~acce~~ adequate & equitable access to it can help create a well rounded growth process.

economic

→ Rural - urban i.e Bharat - India divide will dissipate as rural economy gets a boost.

→ 80% of Indian poor living in rural areas will benefit

→ Traditionally slow growing states like that in North East will gain

⇒ inclusive growth (u/A 38)

social

→ Reduce gap b/w haves & have nots

→ vulnerable communities like tribals to benefit.

→ Women dependence on timber burning or coal burning for fuel will reduce

⇒ their economic empowerment.

→ social justice ensured (preamble).

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Challenges

- India's energy demand grows by 4% per year → large supply needed.

- Distribution channels are often limited.
  (eg) gas pipelines need to be more widespread.

- Inequities in income ⇒ unequal access
  (eg) 22% population is below poverty line (Tendulkar Estimate, 2011)

- High extraction cost of natural gas.

In the long run, to meet our (panchamrita) goal, India should seek to move away from natural gas to renewable sources like solar, wind, nuclear energy.

~~National Mission for clean energy~~
→ move in right direction

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6. The Tiger Census 2022 blamed rising human-animal conflict in western India for the decline in the number of tiger there. This highlights the growing concern about the same.

Reasons

→ Encroachment into animal habitats by urbanization

(eg) leopards are occassionally spotted in metropolitans too.

→ Climate change ⇒ changing behavioural patterns in animals.

⇒ they are moving beyond their usual habitat

→ deforestation & habitat destruction ⇒ rising conflicts.

→ lack of food ⇒ animals enter villages & prey on cattle.

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Measures

- Designated spots for wildlife preservation
  - eg) 450+ national parks.
- EIA (under EPA 1986) is a must for ecologically sensitive projects which displace wildlife.
- relocation of animals that have developed man-eating tendencies.
- The National Board for Animal Welfare (under PM) monitors prevalence of such conflicts.
- WPA 1972 also has provisions pertaining to the same.

Peaceful co-existence of both humans & wildlife is needed for a sustainable environment.

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7. With 35% Indian population living in cities, noise pollution is become a cause of concern.

Linkages

urbanization causes

- increasing population
- rising vehicular traffic
  - eg Horn noise
- industrial set ups.
  - eg in Gurgaon, near Delhi
- airports/railway stations
  - ⇒ noise creators.
- overcrowding ⇒ shouting
- events that play loud music
  - eg weddings, parties, etc.
- closed living spaces ⇒ more noise travel
  - eg apartment living
- deforestation ⇒ shelter belts cut

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EFFECT

- "noise" is classified as a pollutant under Air Act 1981
- mental distress ⇒ health issues.
  (eg) 1 in 7 Indians now suffer from mental illnesses (ICMR).
- rising palpitation, stress level, hypertension (eg) rising heart attacks among young people.
- disrupts circadian rhyth ⇒ sleep cycle altered
- mood swings

Solution
- noise pollution Guidelines 2000.
- police supervision to ensure no loud noise @ night
- Shelterbelts to block noise (eg) trees

A noise pollution free environment will improve quality of life. of citizens. & protect their health (SDG3)

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8. The Indian Space Policy 2023 will guide India as it consolidates its position as a space superpower following the success of Chandrayaan III.

Catalyst

- provides clear vision for Indian space projects.
  - (eg) ~~Gagan~~ Shukrayaan – Venus
    Aditya – Sun.
- Aids international collaboration
  - (eg) Collab. with Russia for Gaganyaan
- Allows privatization ~~[illegible]~~ ~~[illegible]~~ and PPPs
  - (eg) Agnikul, and other space startups.

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- Helping global south.
  - eg PSLV & GSLV launching satellites for Phillipines.
- Move towards sustainable space policies.
  - eg Fillip to NETRA which will combat space debris.
- Space exploration ⇒ knowledge diplomacy under Space policy
  - eg India signing Artemis Accord with USA.
- Rising fund allocation to ISRO.

The Indian Space policy 2023 will not only help explore the realms of space but will also protect India's strategic interests eg via NaVIC as envisioned by Vikram Sarabhai.

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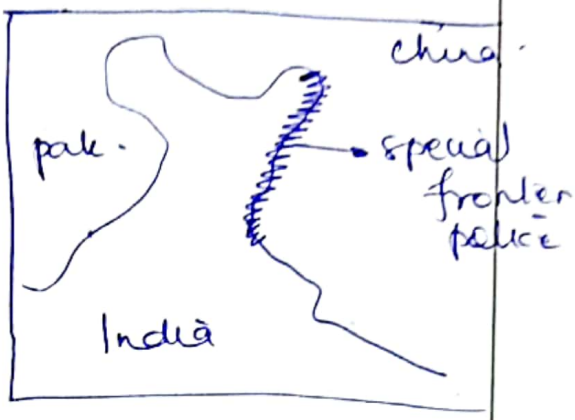
9. The Special Frontier Police guards the Indo-China border along the line of Actual control



Mandate

- To secure Indian borders
- curtail cross border attacks
- counter Chinese aggression near Aksai Chin & Sakshgam valley
- Protect Siachen Base
- Weed out infiltration attempts.
- detect & destroy cross border drug smuggling, arms provision, etc.

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Achievements

- Secured the geo-strategically important regions of Ladakh & Jammud Kashmir.
- prevented Chinese intrusion.
- crack down on underground terrorist activity in the region.
- Helped maintain peace & stability post revocation of Article 370.
- Upholding India's territorial security & national interests

The recommendation of Madhukar Gupta committee can also be extended to India's border with China to protect national sovereignty.

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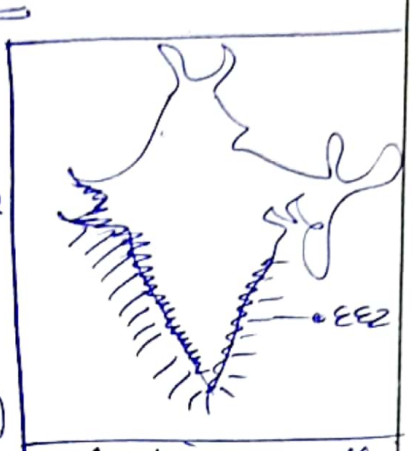
(10) India's 7500 km long maritime boundary makes it vulnerable to maritime threats from both state & non state actors



Indian coastline

Strategic well being

- to counter terror attacks (eg) 26/11 in Mumbai
- China's string of pearls uses maritime route to choke India.
- crimes facilitated (eg) Ship carrying Rs 12,000 crore drug caught in Kerala, 2022.

Economic

- >90% Indian trade is via maritime route
- To tap ocean resources we need Security (eg) polymetallic nodules, tidal energy
- sustainable fishing (eg) India is 2nd largest fish producer

Maritime Anti Piracy Act — 2022.

L uses Indian defense to crack down on piracy threats.

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- IPC did not contain any provision w.r.t piracy → the act fills this gap.
- Proposes punishments upto death penalty for pirates in the region.
- Will safeguard chokepoints like Malacca, Strait of Hormuz that are breeding grounds for pirates
- Will counter the terror of pirates
  ⟹ fillip to trade, security, shared prosperity in IOR

According to an old saying —
"Those that command the sea, rule the world"

thus, in line with India's growing stature as a superpower, maritime security is crucial for economic & strategic prosperity.

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17. Budget 2023-2024 has set India in place to achieve rapid growth in the Amritkaal to accelerate progress towards the target of becoming a developed nation by 2047.

Seven Priority Areas

→ Growth
- to replicate the "golden period of growth" India experienced during 2003-08.

→ poverty eradication
- for the 15% Indian population still living in multidimensional poverty (NITI Aayog)

→ Combatting fiscal deficit = 6.4%.
- fiscal prudence in line with FRBM 2002 and ~~Act~~

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N. K Singh Commission.

→ controlling inflationary pressures

↳ meet MPC target of 4% ± 2%.

→ Green Growth achieved via

- Green credit
- Vehicle scrapping
- MISHTI
- Gobardhan
- PM-PRANAAM
  - PM KUSUM
- AMRUT

→ manufacturing boost – to revive a stagnating manufacturing sector.

→ ~~Agricultural rejuvenation~~

→ employment generation

↳ currently, unemployment = 8%.

Inclusive development

→ Combats inflation = "tax on poor".

→ employment generation is a

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sustainable way out of poverty as per former planning commission member Arun Maira ⟹ inclusiveness.

- growth ⟹ trickle down effect as per Jagdish Bhagwati
  ⟹ all sections benefit.
- poverty eradication
  - social justice
  - concentration of wealth hundered (u/A 39)
- fiscal prudence
  ⟹ inter-generational equity since we will reduce debt burden for future.
- green growth to ensure all sections can enjoy healthy environment (u/A 21)

The Saptarishi will help India reduce inequalities (SDG 10) & ensure –
"Sabka saath, sabka vikaas.

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Q:

Blockchain refers to a growing list of records (called blocks) that are linked together using cryptocurrency. As a peer to peer network, any subsequent modification requires the consent of all.

Digitization of land Records.

→ NEED.

- 45% labour engaged in agriculture
  ⇒ land is their backbone.
- low land record data hinders govt. initiatives
  (eg) land reforms in 1960s.
- access to certain schemes needs proper land records
  (eg) PM KISAAN DBT is only extended to landed farmers

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→ BLOCKCHAIN'S ROLE

- can create a (big data base) that can democratically be accessed by all.
- Help accelerate the process of land mapping via drones
- fillip to satellite mapping like NISAR & Remote Sensing Satellite
- will augment (DILRMP) & (SVAMITVA) scheme. ⇒ faster digitization of land record.
- can further use ~~the~~ (entangled photons) (Nobel 2022) to build robust blockchain networks that can use cryptography to safely store data.

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→ IMPACT OF USE OF BLOCKCHAIN

- land digitized records ⟹ collateral for farmers
  ⟹ access to formal finance.

  (eg) As per NSO 70th round — 40% Indian farmers still depend on informal lending

- Prevent land disputes

- Ease land acquisition
  ⟹ rise in EoDB

  (eg) in 2020, India was ranked 63rd in WB's EoDB index.

Hence blockchain's used in land record digitization will not only provide a fillip to Digital India mission but also help in poverty eradication (SDG 1)

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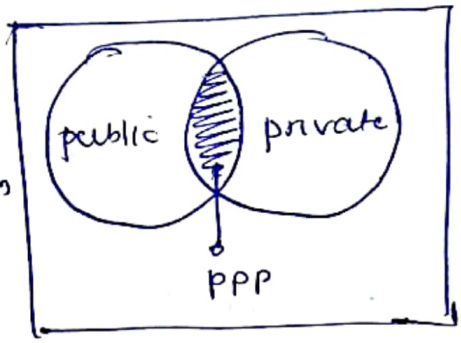
Ans. PPP are arrangements b/w the public & private sector to provide public service or assets (eg) Adani group working on Delhi-Mumbai expressway

STORAGE



- As per NITI Aayog, only 10% Indian food is under cold storage
- private collaboration ⟹ necessary finance & expertise to develop storage

TRANSPORT

- In India, National highways make up 2% of road length but carry 40% cargo ⟹ need for PPP to accelerate road development

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→ India Kelkar committee (2006) recommended use of PPP to develop transport infra.

(eg) Delhi-meerut highway

(eg) Expansion of KISAN Rail & KISAN Udan initiative

Marketing

→ e-choupal (developed by ITC) have allowed Indian farmers to ~~produce~~ market in international markets.

→ e-NAM also had contribution from private players.

→ further, PPP can reduce farmer dependence on 'mandi' (under APMC Act).

advantage of PPP

- brings in funds
- expertise
  (eg) Adani group developing Vizianagram port.
- social development
  (eg) Nestle training dairy farmers
- fillip to agricultural growth

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However, some concerns —

- Crony capitalism may hinder progress
  - (eg) Allegations against Adani group.
- Bidding process for PPP ⇒ zero sum activity ⇒ waste of society's resources
- Allegations that politically connected firms will win PPP bid.
- Need for govt. supervision is indispensable to gain farmer confidence.
- Private players may exploit vulnerable farmers.
  - (eg) As per NCRB, farmers accounted for 6.6% national suicides in 2020

PPP should be pursued with caution to ensure it is a tool of development for not just agricultural produce but also economy. This will make the private sector a "partner in progress"

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अभ्यर्थियों को इस मार्जिन में नहीं लिखना चाहिए
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1 (a)

The SMART-PDS system aims to leverage ICT to provide subsidized food grains to ~~vulnerable~~ ensure food security & resilience against unforeseen events like natural calamities

Transformation potential: food security

- can aid PDS which provides 30,000 crore worth of commodities annually.
- The 16 Lakh beneficiary families will gain easier access to PDS
  (eg) via SMS based notification when PDS food has arrived.
- Will curb leakages & corruption at the 5 lakh fair price shops.
  (eg) via biometric safety

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Farmer —@msp→ FCI —@central issue price→ state
↓
fair price shop —@central issue price→ beneficiary

PDS in India.

Beyond food security

- By weeding out corruption
  - ⇒ clean economy.
  - ⇒ boost to economic growth.
- By enhancing food security ⇒ healthy
  - ⇒ demographic dividend
  - ⇒ "affluence before ageing"

(eg) 2/3 Indian population is b/w 18-59 years of age.

- Help escape vicious cycle of poverty

PDS → low health → low income → low food expenditure → low health

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- promote equitable distribution by allowing the poor to access govt. opportunities.
  - eg currently top 1% Indians hold 40% wealth (oxfam)

- MSP regime – which aids SMART PDS
  - ⟹ supports farmers.
  - eg As per Abhijit Banerjee, MSP has helped alleviate rural poverty

- Social justice ensured.
  - ⟹ welfare state created (4/A-38)

The benefits of a Smart-PDS will be such that Nobel laureate Amartya Sen suggests it should be extended to all, and not just to targeted beneficiaries.

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अभ्यर्थी इस हाशिए में नहीं लिखेंगे। Candidates must not write on this margin

15- Marine Heat waves have become a rising concern due to climate change raising their frequency & intensity

Causes

- Heating of the globe due to global warming
  - (eg) Experts predict that the Paris Cop target of 2°C is likely to be breached.
- Evaporation patterns contribute to their formation
- Hot winds and air masses facilitate their move.
- Volcanic eruptions under ~~ground~~ water
  - (eg) in the mid Atlantic Ridges like Mt. Helena

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marine ecosystem

- marine ecology is very sensitive to temperature fluctuations
  - (eg) Corals
- Will contribute to extinction of species
  - (eg) Dugong in Gulf of Mannar.
- Hampers Lisbon Ocean Declaration (2022) 's call to protect ocean diversity.
- Plant diversity in water impacted.
- ~~Seabirds~~ migration patterns affected
  - (eg) olive Ridley Turtles in Bhetarkanika

economic losses

- India has 10% of world's fish diversity ⇒ under threat

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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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- Aquaculture revenue takes a hit
  ⟹ blue economy hindered.
- Trade routes may be impacted.
  Will affect the $1 trillion trade India had in FY23.
- Mineral resources in water like gas hydrates may come understress

Solution
- UNCLOS can work on it
- global NDC commitments to reduce warming
- technology
- biotech to make fish resilient.

We need to protect our marine & other ecosystems in line with Article 48A & PM Modi's words @ US Congress

" mata bhoomi, putro Aham prithvyia "

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16. Glacial lake Outburst floods are a type of natural disaster that contributes to the 2% of Indian GDP that is lost to natural disaster per year (World Bank).

Causes

→ NATURAL

- climate change – which has destabilized weather patterns, raised average temperature, and affected land use patterns.

- Excessive rainfall

  eg In 2023, Northern Indian witnessed 56% excess rainfall (IMD)

- Cloud bursts as seen in Kedarnath 2013

- ~~Thus also~~ local landslides & tectonic plate movements

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→ ANTHROPOGENIC

- pollution ⇒ reduces carrying capacity of lakes
- Unsustainable tourism in mountain regions.
- Improper waste disposal (eg) only 30% Indian waste is recycled.
- Rampant urbanization → as has been noted by Mahesh Mishra Committee

IMPACT

- Flood affected regions ⇒ loss of human life & animals too.
  ⇒ SDG 15 (life on land) harmed
- Contributes to the "water as the problem of climate change" phenomenon noted @ COP 27 (2022).
- Crop destruction ⇒ food security hampered
- Economic damage ⇒ GDP falles.
- Ecological imbalance.

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Measures Taken

- PM's 10 point disaster risk agenda outline proactive measures to combat such disasters.
- NISAR satellite being developed to monitor glacial changes in Himalayas.
- GSI closely tracking the 76 Indian glaciers that are rapidly melting in the Himalayas.
- MoES is also studying ways to combat the outburst floods.
- The National Disaster Management Policy provides guidelines for disaster response.

The Sendai protocol should be utilized to prevent GLOFs and ensure economic prosperity & people's right to life (u/Art 21) is not threatened.

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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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17. Radiometric dating is a technique used to ascertain the age of an ~~living~~ organism that is usually a plant or animal.

How does it work ?

- Based on the properties of carbon — that is present in all life forms.
- Measures the carbon degradation that the organism has undergone.
- Compares this degradation to the half life of carbon.
- The calculations are used to obtain age of the being.

Eg Old trees & extinct species ~~are~~.

↳ radiometric dating determines their age.

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Limitation

- Beyond a certain number of years, it can not provide accurate ~~to~~ age since carbon full life would have passed.

- Degradation & decomposition of species ⟹ tough to make calculations
  - (eg) This problem was encountered by Pääbo Salve while studying ancient hominine (Nobel 2022)

- Requires advanced scientific tools.
  ⟹ India faces a crunch

- Is known to produce contrasting & inconsistent results sometimes

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Advantage of Calcium 41

- longer half life.
  - ⇒ more accurate results.
- more easily available
- more economical i.e cheaper than its alternatives
- Ensures that results are not contaminated by external changes

Radiometric dating allows us to understand the world around us and in the process understand ourselves.

Also, it helps to uphold the spirit of enquiry (u/A 51A)

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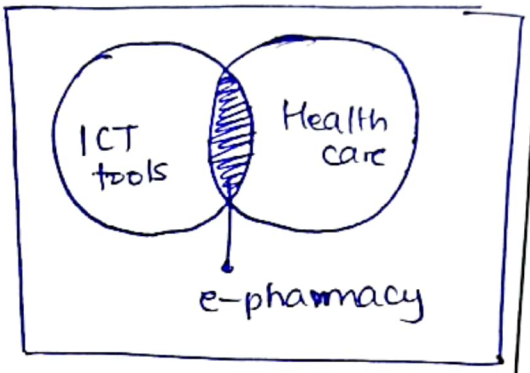
18.

The Ayushman Bharat Digital Mission which aims to bring a digital revolution in Indian healthcare is promoting the e-pharmacy initiatives

Growing Concern



- Cases in which wrong or fake pharmaceutical products were delivered by e-pharmacy firms.

- Personal data i.e medical needs of users is recorded → data privacy concerns have been highlighted by Sri Krishna committee.

- Presence of foreign firms in the sector makes it more concerning
  - data colonization

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- Allegations that personal health data will be misused to allow advertisers to target pharma users better.

- Digital divide ⇒ not all benefit from it
  - eg 600 million people in India lack access to the internet

- Alleged over-pricing of drugs
  - ↳ anticompetitive practice ⇒ violates competition Act 2002

Measures Needed

- Robust regulatory environment to ensure fake drugs are not being sold.

- A platform akin to ONDC can be created solely for pharma products under purview of government.

- Regulating entry of foreign firms into the sector.

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- Robust data protection laws.
  - (eg) Personal Data Protection Act 2023.
- Bharat Net initiative for fiberization
  - ⇒ will allow equitable access
  - (eg) 400,000 miles of fiberization already achieved.
- Collaborating with Indian Medical Association for more robust adoption of e-pharmacy
- Grievance redressal mechanism to address issues

e-pharmacy, with certain precautions, can help democratize healthcare access, ensure availability, accessibility, affordability of medical needs & protect the right to health (u/A21) of all citizens

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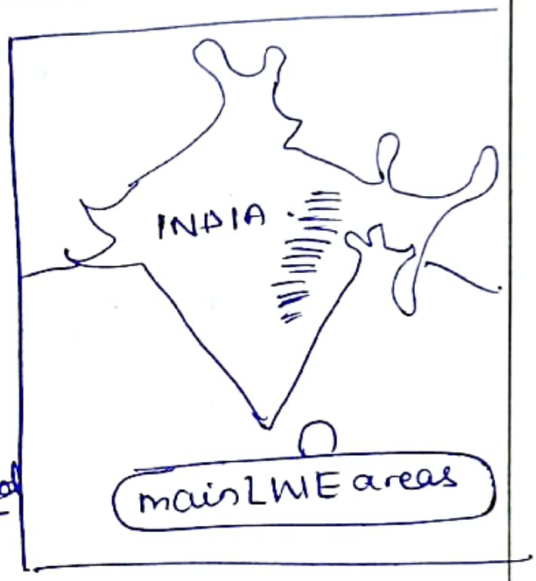
19. Between 2010 and 2021, the LWE violence incidents declined by 75% and death incidents declined by 83% as per the Ministry of Home Affairs.

Factors for decline

- LWE division under Ministry of Home Affairs ensuring concentrated efforts



- Samadhaan doctrine → helped address the issue.
- Deployment of CRPF and COBRA forces ⇒ curtailed violence.
- state initiatives (eg) Bastar Battalion, Greyhounds in A.P. ⇒ grassroot solutions.

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→ Favourable govt. policies

(eg) PESA 1996 ; Forest Right Act 2006.

→ initiatives to counter under-development

(eg) LWE—Road connectivity project.

(eg) PM-SHRI & Eklavya schools.

→ livelihood creation for tribals.

(eg) PM-Van Dhan Yojan.

(eg) PM Adi-Adarsh Gram Yojana.

→ Aspirational district programme in 35 LWE districts ⇒ also helped counter the menace.

Will the decline end?

Some challenges continue which may not end LWE.

→ Forest (Amendment) Act 2022

↳ tribals have alleged it violates FRA 2006.

⇒ protests.

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- Continued depravation
  - eg As per doll census, poverty rate = India = 22%, Chhatisgarh = 39%.
- Foreign backing - from China, Pakistan is believed to continue.

Solution to end LWE

- tech eg: drone to monitor
- strengthen PESA 1996
- Focus on grassroot development
  - eg education, health
- leverage National Commission for ST
- social justice
- international collaboration
  - eg in SAARC, SCO
- [Civil Rights Act 1955, Atrocities Act 1988] → strengthen

Since independence, India has lost more lives to internal security threats than all of its external wars combined.

∴ Need to address LWE to create "Ek Bharat, Shreesth Bharat"

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20. According to IMF, tax evasion is a significant component of Indian economy where only 5% Indians pay taxes.

Commonalities – money laundering (ML) and tax crime (TC)

- Both are financial crimes.
- Both destabilize economic structures.
  - (eg) As per IMF, $ 2-4 trillion are laundered everyear in the world.
- Both contribute to black money.
  - (eg) black money = 20% Indian GDP (World Bank).
- Both are used by non-state actors & external agents as a form of invisible warfare.

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Use of —

Anti money laundering measures to tackle TC presents challenges —

Political

- political apathy ⇒ compounds TC
- political parties are sometimes themselves accused of ML & TC.
  - (eg) To tackle this, electoral bonds introduced.
- Tax crime ~~pig~~ by politically connected individuals is allegedly ignored.

legal

- Legal loopholes exist since ML & TC are not exactly the same.
- TC may not include ML
- law imposing agencies also struggle to make a distinction

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Operational

- Different agencies monitor ML and TC ⇒ confusion.

- Agricultural Income is exempted from Tax under section 10(1) of Income tax Act 1961 ⇒ as per Kelkar committee — it is a major source of ML.

Thus, a ~~tat~~ policy and law that focuses exclusively on tax crimes will not only stabilize economic health and reduce fiscal deficit (= 6.4% in FY23) but will also create a robust growth process towards a $5 trillion economy.

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1. Fiscal stability refers to a state in which the revenue inflows of the government are robust and stable and the expenditure is controlled. This ensures a low fiscal deficit and low revenue deficit.

Issues

→ Revenue Side

- post 101st Amendment (GST) states have raised concerns about not receiving compensation from centre.
  - (eg) West Bengal.
- Tax payer base remains low
- States have demanded greater financial devolution.
  - (eg) 15th Finance Commission provides devolution @ 41%.

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→ Expenditure size

- continued freebie / "revadi" culture.
  - (eg) Free laptops, bus services ...
- Return to old Pension Scheme.
  - (eg) in Himachal Pradesh,
- COVID induced rise in expenditure.

Measures to Address

FRBM 2003 aims to limit fiscal deficit and eliminate revenue deficit.

→ Preventing tax evasion / frauds.

→ Black economy makes up 20% of Indian GDP (IMF) ⇒ need to bring under govt. scanner to levy tax.

→ Use sovereign green bonds, PPP, CSR for funding.

→ move from subsidies ⇒ investment.

N.K Commission (2017) recommendations can be the guiding light.

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2. Product linked Incentives refer to government backed subsidies, tax benefits, etc that are provided to producers of certain products to encourage their domestic production.

eg: PLI on drones, semiconductors.

(Help in Achieving Atma Nirbhar Bharat).

→ Incentivize foreign producers to produce in India.

(eg) PLI has contributed to rise in FDI to an all time high of $70 billion in FY23.

→ Fillip to make in India which aims at raising manufacturing levels in India.

→ Make Indian production space more competitive ⇒ attract MNCs.

(eg) Apple compiling iphones in India now, instead of China.

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→ Can lower cost of production for investors

⇒ boost quantity in market.

→ Will reduce dependence on foreign sources for key products like semiconductors.

⇒ contributes to China + 1 strategy.

Challenges

→ Ease of Doing Business needs improvement.

(eg) India EoDB = 63rd rank in 2020 (WB) index.

→ Infrastructure constraints limit production

(eg) National Highways that comprise 2% of Indian road length carry 40% Indian cargo.

→ Bureaucratic/legal delays ⇒ deters FDI

(eg) Foxconn withdrawing

Thus, a multi pronged strategy that improves infra (Gati Shakti), raises EoDB. (eg: IBC 2016) and minimizes delay ⇒ Atmanirbhar in Amritkaal

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3. Millets refer to the fine grained, small seeded crops that are indigenous to the arid and semi arid regions of India.

eg : Jowar, Bajra ...

millet growing regions

Advent of Climate Change

→ Has created water scarcity. ⇒ millet needs less water.

(eg) As per NITI Aayog, India is set to see potable water demand exceed supply by 2030.

⇒ ~~be~~ millet is improvement over water guzzling rice/wheat.

→ Millet is photo-insensitive and can also grow well in low soil quality

(eg) Land degradation is a consequence of climate change (UNCCD)

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→ Low fertilizer requirement.

GoI Initiatives

Due to Green Revolution / MSP regime, millets were sidelined. Now, attempt to revive millet production via –

→ Rise in MSP on millet.

→ UNGA declaring 2023 as International Year of Millet on India's recommendation

→ Support to farmers w.r.t millet seed procurement

→ Highlighting its health benefits.

- High ~~par~~ protein content
- Gluten Free
- Helps lose Weight.

41% of global millet production takes place in India. Thus, ~~[illegible]~~ it can not only make Indian agriculture climate resilient but also act as an income booster to farmers.

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4.

~~Liv~~ India has a 536 million strong livestock population – the largest in the world.

Livestock creates employment, generates income; and helps alleviate poverty.

(eg) India is the largest milk producer in the world.

Poor Quality and Inddequate feed/fodder

India's livestock is about 50% less productive than the global average (NB)

→ poor quality fodder ⇒ livestock health & immunity compromised

⇒ diseases

(eg) Black Quater, foot & mouth diseaie

→ Keeps livestock underweight ⇒ market vrability lowers

→ Reduces reproductive capacity.

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→ Limited fodder due to competition for scarce resources.

(eg) Common grazing fields

⇒ "Tragedy of Commons".

However, other reasons for low productivity

→ Lack of access to healthcare for livestock.

→ Low credit access to farmers

⇒ can not invest in livestock tech. like automatic milk extractors

Measures to improve

- Rashtriya Gokul Mission
- National Livestock mission
- enhanced Vetenary Services
- cooperatives. (eg) Amul

In line with Article 48, need to organize animal husbandry on scientific lines to help the 70% rural households that own livestock

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5.

Integrated Pest Management refers to a system in which a holistic, long term, and all-inclusive approach is used to counter the menace of pests.

Objective & components

→ Safeguard agricultural production.

(eg) India's ~~food~~ grain output of 315 million tonnes in FY23 is threatened by pest destruction.

→ Use technology to identify and eliminate pests

(eg) Artifical Intelligence enabled sensors placed in fields.

→ generate awareness in farmers with pest management.

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→ provide access, availability, and affordability to pest management tools.

- (eg) insecticides, pesticides → receive subsidy
  ⇒ significant portion of GoI's ₹ 5 Lakh crore subsidy expenditure in FY23.

→ Infrastructure development to reduce damage. (eg) NITI Aayog recommends warehouse expansion.

→ Drones to spray pesticide

The IPM can act as a lifeline for the 45% of labour force that depends on agriculture for its livelihood.

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6.

Operation Dost highlighted the importance of international cooperation in disaster risk management.

Significance

→ Allows cross border assistance.

(eg) Operation Vanilla - flood relief by India in Madagascar in 2020

→ provides new domain for collaboration

(eg) HADR initiative under QUAD.

→ ~~Great~~ Creates goodwill.

(eg) India as first responder to disasters. in other nations.

→ Can leverage and develop technology collectively

(eg) NASA & ISRO's NISAR satellite helps in disaster risk reduction

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→ Helps India reduce disaster cost.

(eg) WB: Business as usual approach will cost India $1 trillion by disasters by 2047.

(Regional Cooperation)

→ In line with Gujral doctrine ⇒ India extends unilateral assistance.

(eg) during cyclone Mocha in Bangladesh

→ BIMSTEC to counter disaster risk in Bay of Bengal region.

→ IOR forum. ⇒ provides platform to reduce disaster risk.

→ CDRI ⇒ India has extended assistance to Maldives and others at threat of submergence

→ In line with Sendai Protocol and National Disaster Management Plan 2016, India should continue to reduce disaster risk.

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7. Sand mining has become major cause of concern due to its destabilizing effect on local ecological balance. Sand is a minor mineral under control of state government.

Economic benefit

→ sand used in construction process ⇒ needed to meet our target of ₹ 10 L crore spent on capital expenditure in budget 2023-24.

→ Sand is exported to nations like Singapore. ⇒ forex contribution ↳ $ 600 billion.

⇒ Helps tackle current account deficit = 2.5% of currency.

→ Sand is a resource endowment which must be harnessed for growth. ⇒ $ 5 trillion.

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However, costs –

→ Biodiversity harmed.

(eg) Crabs, snakes, rats, rabbits....

⇒ violates Kunming Montreal framework signed at COP 15 @ Montreal (2022).

→ Soil destabilized ⇒ soil erosion, soil degradation

↳ This concern has been raised by UNCCD.

→ Soil harmed ⇒ water percolation hindered

⇒ groundwater replenishment.

⇒ agriculture which uses 90% groundwater extracted harmed.

→ Deforestation ⇒ meeting 33% forest-cover target of National Forest Policy 1988 hindered.

Solution → EIA of sand mining

→ Use NISAR to track illegal mining

→ involve local communities

Sustainable sand mining ⇒ sustainable development ⇒ Life on land (SDG 15)

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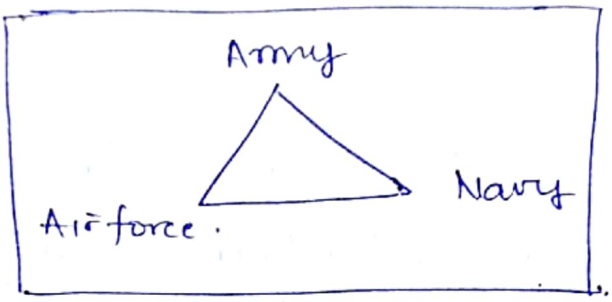
8.

Theaterisation plans in the defense forces will allow greater collaboration between different units of the armed forces by making them work together.



Rationale -

→ In line with Kelkar Committee 2004 recommendation to modernize defense forces.

→. Prevent work in silos.

→ Allows sharing of tech, tools, expertise.

⇒ DRDO can function more holistically.

→ Will provide comprehensive defense against potential two front war

China, Pakistan

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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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→ Chief of Defence Forces can exercise better decision making when forces collaborate

Challenges

→ Will need period of adjustment since it a new idea.

→ Hierarchy of officials will have to be reworked when the branches collaborate.

→ Agnipath scheme is already bringing in new changes ⇒ too many changes at once may burden the system.

→ Need to focus on technology development in defence too. (eg) Drones, quantum tech, etc

A gradual move towards theaterization will allow India's defence forces to counter aggression from hostile powers.

⇒ 3rd ARC recommendation to strengthen defence mil.

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9.

Shell companies refers to companies that have been set up with the sole purpose of channelizing funds/money through them to evade taxes or enable money laundering

Money Laundering: illegally obtained funds → introduced into economy as legitimate funds.

How Shell Companies are used

→ They obscure the source of origin of funds. (eg) shell companies that operate from Maldives/Mauritius.

→ Allow for "round tripping" of funds.

→ Make it difficult for national governments to track fund movements since multiple international jurisdictions involved.

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→ Shell companies in countries like Netherlands, Iceland are protected from legal action from India.

Steps Taken

→ Prevention of Money Laundering Act 1988 monitors shell companies.

→ FEMA 1999 is also leveraged for the same.

→ ED surveillance helps track shell companies used to launder money

→ International collaborations

(eg) FATF to curb shell company based money laundering.

Globally, about $2-4 trillion are subject to ~~for a~~ Money laundering every year (IMF). India must strengthen its financial infra to combat this.

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10. (BDC)

India has set up a biological data centre in Haryana. to protect, preserve, and study crucial biological data -

↳ microbes, pathogens, stemcells....

Objectives & Significance

→ In the post COVID-19 era gene mapping and pathogen tracking needed to protect against new variants.

⇒ enabled by BDC

→ Anti-microbial resistance can be studied with data of BDC

⇒ Help meet "One Health" objective

⇒ Article 21 (Right to life) protected.

→ New threats like zombie virus can be studied. ⇒ protects health of citizens (SDG 3)

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→ Helps develop new tech –
(eg) gene editing ; CRISPR , etc.

→ Enhances agricultural productivity
(eg) GM crops like BT cotton, Golden rice, etc

→ Helps in conservation of specie genetic code ⇒ protects biodiversity
⇒ supports Biodiversity Act 2002

→ Helps store sensitive biological data safely.

→ Prevents domestic biological data to be stored in foreign servers
⇒ Data localization enabled
⇒ Atma Nirbhar Bharat.

Hence, the BDC can act ~~act~~ as the key to protect human health & help economic growth. to meet Panchpran targets.

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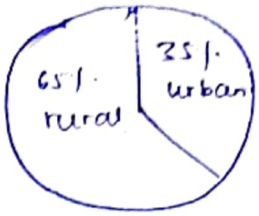
11.

Currently, 35% of Indian population resides in urban centres. Urban centres often face a resource crunch while trying to meet the objectives of the National Urban Policy 2017.



India

Need for municipal bonds

→ Devolution of funds to municipalities remains low.

→ In some states, even the State Finance Commission is not regularly set up.

→ Hence, perennial fund deficit.

⟹ limits capital investment

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Using municipal bonds ⇒ funds can be raised to meet capital investments like

→ road construction

(eg) As per NSSO roads in urban centres are regularly subject to potholes ⇒ hinders transport

→ Schools, healthcare, etc facilities to cater to the 450 million people in cities.

→ Sewage development in line with AMRUT scheme.

→ Sanitation, toilet facilities under Swach Bharat Mission.

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Concerns

- bond market in India remains ~~tied~~ underdeveloped.

- low bond ratings ⟹ need to provide higher interest rate to lender

- Can leverage PPP, CSR funds, instead.

  eg Tata providing Nagpur water delivery public service

~~Ita~~ Municipal bonds can act as a medium to strengthen local governance and meet the vision in letter & spirit of the 74th constitutional amendment act 1992.

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12- Since independence, women have made strides in various fields as seen by:

	1950	currently
Female literacy	8%	70%
TFR	5.6	2.0
IMR	180/1000	28/1000

→ However, Indian FLFPR = 24%.

China FLFPR = 60%.
even Bangladesh has higher

need for improvement

→ Further as per IMF if we make female and male workforce participation equal in India
⇒ 27% boost to GDP.

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Reasons for low FLFPR

→ patriarchal belief that women must remain in domestic spaces.

→ ~~Kathen~~ Paragariya noted withdrawal of rural females from workforce (post 2005) when family income stabilized.

→ India's Gender Gap Index rank = 135/146 (2022)

→ Workplace Harassment despite POSH Act 2013.

→ Gender pay gap ⇒ discourages women.

→ Transport limitations ⇒ safety concerns.

→ lower educational & skill training levels than men (eg) male literacy = 84%. female literacy = 70%.

⇒ women have not been absorbed in our skill intensive, service sector led growth

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Measures to improve

(i) Education for work readiness

(eg) Beti Bachao, Beti Padhao.

(ii) Encouraging entrepreneurship (eg) Stand up India

(iii) MSME promotion (eg) 14% MSMEs are owned by women.

(iv) Equal Renumeration Act (1976)

⇒ to plug pay gap.

(v) MGNREGA : 1/3 reserved for women,

(vi) Internal Complaints Committee in every workplace with > 10 employees

As Swami Vivekanand said —

"No nation can fly with one wing tied".

⇒ Raise FLFPR to meet panchpran goals.

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13.

The post harvest value chain is marred by infrastructure challenges that lead to crop loss. The 86% of Indian farmers who are small & marginal are particularly vulnerable.

Inefficiencies

→ Results in crop losses due to damage.

(eg) As per NITI Aayog, only 10% food is under cold storage

→ Limits food processing industry.

(eg) Only 10% food grains are processed in India

→ Lack of certifications ⇒ hinders exports

(eg) by AGMARK.

⇒ India has potential to raise agri exports beyond the $50 billion in FY21.

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→ lack of access to market networks

⇒ post harvest value chain compromised.

Steps

→ The 1 lakh crore Agriculture Investment Fund is developing post harvest technology

→ NITI Aayog : suggested expanding network of warehouses, cold storage units.

→ marketing
- e-NAM : 2 crore farmers used.
- e-Choupal : connects farmers to global market.

→ KISAN call centre

⇒ to enhance awareness w.r.t govt-schemes

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→ KISAN RAIL and KISAN UDAAN.

⇒ post harvest transport.

→ SAMPADA Yojana and Mega Food Park Scheme ⇒ to aid Food processing industry..

→ APEDA → working to promote exports and branding

The S&M farmers will benefit from these initiatives. Further, incorporation of tech based solutions in post harvest value chain will help raise agriculture share in GDP from the 16% currently

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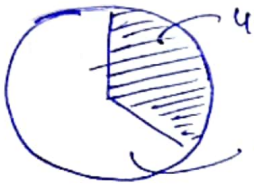
14-

India's energy sector is undergoing many changes to meet the energy needs of a 1.4 billion strong population in the Amritkaal.

Decarbonization



40% renewable energy
60% non-renewable
} India's energy mix.

→ With 500 GW set to be generated from renewable energy sources by 2030 (panchamrita target)

⇒ rapid decarbonization

→ proposed carbon tax by EU ⇒ need to decarbonize to maintain export competitiveness.

→ Share in energy of solar (14%), wind (10%) and nuclear energy (3.2%)

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is rising

→ Electricity Rules 2022 provided Green Open Access i.e consumers can demand green energy from DISCOMS.

Decentralization

→ centre encouraging state discoms to reduce A&T losses by taking greater control.

→ ADITYA scheme → encourages private sector participation in energy provision

(eg) Mauthon Power Plant by Adani.

→ Helps reduce confrontational federalism

⇒ strengthens "national grid"

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Digitization

→ Will help India become carbon neutral by 2070.

→ AI, blockchain, quantum computing,

↳ used to monitor / regulate electricity usage.

(eg) ACs automatically switching off when no person in room.

(eg) AI predicting energy demand ~~to allow~~ prevent electricity outages.

~~Also~~, A robust energy sector will power India's journey towards a $5 trillion economy. Becoming an energy independent nation by 2047 ~~should~~ is the aim.

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15.

Chemical disasters like the Bhopal Gas Tragedy 1984 infringe upon the Right to Life (u/A 21) and SDG 3 (good health) by jeopardizing human well being.

Challenges in mitigating

→ Accountability in chemical disasters remain low.

(eg) Bhopal Gas Tragedy victims are still demanding compensation from Union Carbide

→ Long term costs often ~~go~~ outlooked

(eg) genetic changes, cancer development, etc due to chemical exposure.

→ Lack of trained specialists to counter a chemical disaster.

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→ Technology to help clean up post chemical disaster is low.

→ Awareness low ⇒ chemical plants often set up in localities with dense population

→ Healthcare system is not equipped to deal with such disasters.

(eg) Since only 2.1% of GDP is spent on health, funds available to study reaction of body to different chemicals is limited.

→ Spatial spread of chemical ⇒ difficult to counter it. ⇒ spreads to soil, groundwater ⇒ agriculture threatened.

(How to Address)

→ Comprehensive policy to deal with chemical disasters ⇒ add special clause to (National Disaster Management Act 2005).

→ Fast track courts to resolve demand for compensation.

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→ leverage nanotechnology to develop tool, devices to clean up post disaster.

→ Robust EIA before setting up chemical plants

→ "Polluter Pays Principle" should be strictly enforced

→ multilateral cooperation vicare offender ie MNC ; (eg) in Union Carbide case.

→ Seek international aid in QUAD, WHO, etc to mitigate large scale chemical disasters.

As per 2nd ARC, there is a need to prepare for Disasters ~~can~~ in advance to ensure that when they strike, we are ready. As it said -

"Better to prevent & prepare than to repent & repair"

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16-

Climate Reparations refers to the demand that the polluters and climate change creators like developed countries, rich people, urban centres, etc owe a compensation to the victims of climate change, usually poorer people.

eg Discussions pertaining to Loss & Damage Fund @ UNFCCC COP 27.

Climate reparations

based on equity principle

Rawlsian belief of helping the least ~~victims of~~ well off sections.

"common but differentiated responsibility"

eg Post the Pakistan floods, 2022 which displaced 1 in 7 Pakistani (mostly poor, rural population), there were

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demands that the West should compensate the nation.

Need to Implement

→ Historical polluters are not proportionately bearing the burden of climate change.

(eg) US has contributed to 25% of CO_2 emissions since 1850.

→ The per capita pollution emissions of developed West remain high.

(eg) GHG emission per person in India = $3CO_2e$ whereas in USA = $14 CO_2e$ per annum.

→ Climate changed induced disasters ⇒ economic damage to poorer nations

(eg) As per World Bank, India loses 2% of its GDP to natural disasters every year

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→ Funds needed for technology development in poorer nations. (eg) Solar energy related tech

→ concern for poor ⇒ UN Convention on Human Rights.

Challenges

→ Resistance from those that need to provide reparations. (eg) US and EU.

→ Difficult to put economic value on loss caused by climate change.

→ Biased multilateral platforms (like UNSC)
⇒ will favour richer nations.

→ Money will not be able to counter the damage already done.

India should continue to be the "Voice of the Global South" and leverage its G20 presidency to demand climate reparations.

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11.

Invisible warfare refers to the tactics of aggression displayed by nations that are not in the form of traditional usage of weapons / force

(eg) AIIMS cybersecurity attack 2022 → allegedly by China.

Components.

→ online crimes
- hacking
- honey trapping. (eg) recent DRDO case.
- data colonization
- invasion of data privacy.
- fake news.

→ economic - (eg) Dumping of products to destabilize economy, harm local producers

→ biotechnology. (eg) Allegations that COVID was a lab made virus by China.

→ counterfeiting : (eg) Pakistan sending

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FICNs to India via drones

Challenges

- security is traditionally understood in terms of armed forces
- New tech. (eg) cryptocurrency
- threatens critical information infrastructure (eg) like Aadhaar database
- Difficult to pin blame ⇒ low accountability

Steps

~~Ecoo~~ Cyberspace

(i) National Cyber security Policy 2013.

(ii) IT Act 2000.

(iii) CERT-in

→ Help crack down on hacking, phishing, online scams.

(iv) IT Act 2000 section 69(A) and PIB fact checking unit ⇒ regulates fake news

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(V) Srikrishna committee - highlighted importance of data privacy.

(VI) Data localization norms.

(VII) Banning TikTok (China).

Economic

→ WTO discussions ((eg) @ Geneva Conference 2022).

→ restricting Chinese imports.

→ FATF, Delhi Declaration → counters invisible warfare of money laundering.

Bio tech — India has demanded fair investigation into the COVID-19 origin.

Invisible warfare can act as the biggest threat to world in the era of the 4th Industrial Revolution. As Obama said "The 3rd World War may be fought online"

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18 -

Geospatial data refers to the data procured from satellites that maps the features of the earth. National Geospatial Policy 2022 aims to leverage this technology

Significance

→ Helps monitor areas with disturbances

(eg) geospatial tech used to track LWE areas in Chattisgarh.

⇒ helps spot militant camps.

→ In areas with challenging geography, it enhances internal security.

(eg) North East — 70% hills
— 40-70% Forest cover

⇒ help counter NSCN, ULFA ...

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→ Enhance border security.

(eg) Tracks drones from Pakistan that are used to drop drugs, weapons and counterfeit currency into India.

→ Monitor movement of enemy troops.

(eg) Helps Indo-Tibetan Border Police track Chinese troop movements.

→ During high profile, sensitive events ⇒ geospatial surveillance

(eg) during Republic Day celebrations @ Red Fort.

→ Helps predict occurence of natural disasters

⇒ prevents damage to life, property.

⇒ prevents proliferation of anti-social elements in the chaos that follows

(eg) Tracking Brahmaputra flooding.

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→ Needed for strategic armed forces decisions.

(eg) Determining ideal location of troops, ships, submarines, etc.

→ Assist the Central Armed Police force in counter insurgency and maintaining public order.

Thus, geospatial data produced by Remote Sensing Satellite, NISAR and NavIC can allow India to ~~pro~~ modernize our defense forces (as recommended by Kelkar Committee 2004) and enhance national security.

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19.

AI refers to the technologies that replicate human intelligence. (eg) Online doubt solving platforms powered by AI.

AI can be used under the ambit of NEP 2020 to revolutionize education.

Traditional Teaching ~~[illegible]~~

classroom based Facts driven Focus on books lack of audio/visual tools	AI →	dynamic classrooms. enables interesting data presentation Focus on learning incorporates multi sensory inputs.

→ Will equip teachers with tools to enhance classroom delivery in the 15 lakh schools in India.

→ AI driven robots can also teach.

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→ Help in flexible teaching - any day, any time.

→ AI ⇒ students can be taught in their vernacular languages more easily.

Student Learning

→ Interactive technology rather than dry learning ⇒ greater retention.

→ Allows student specific feedback, course adaptation.

→ democratization of education.

eg via Unacademy, BYJU, etc → edu. has spread to all corners.

→ Helps counter "learning losses" experienced during COVID (UNICEF)

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However, some concerns—

(I) · Limited penetration ⇒ disparity.

(eg) Only 34% Indian schools have access to internet, let alone AI.

(II) AI lacks human touch, can not provide ethical training.

(III) Against traditional Guru-Shishya relation envisioned by Gandhiji

(IV) Poor will have lower access. (eg) 15% Indians in poverty (NITI Aayog) will have limited access.

(V) Cheating (eg) using ChatGPT, Bard for homework.

Thus, need to ~~progress~~ proceed with caution. Spreading internet access to all corners of India via Bharat Net ⇒ first step in equitable AI usage

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20.

Homi Bhabha is also called the father of India's nuclear mission. His vision built the base on which our "atoms for peace" approach to nuclear technology is built.

Contribution

- Headed the Department of Atomic Energy

- collaborated with ~~Russian~~ American, Soviet scientists to help India set a nuclear base. ⇒ Kundankulam plant was set up eventually

- Help change hostile public attitude towards nuclear energy in the aftermath of Hiroshima, Nagasaki ~~[illegible]~~

- Set up nuclear power plants. Today India has 22 such plants.

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(Should India proritize nuclear energy?)

→ India's electricity needs are growing at 4% per annum. Further, this number is expected to rise.

→ 7% Indians continue to not have electricity access.

→ Nuclear energy which ~~makes up~~ meets 3.2% of India's energy needs currently ⟹ huge potential.

→ ~~Eg.~~ Climate friendly tech, will help phase out coal and will provide relief if EU imposes carbon tax.

→ Reduce import dependence. (eg) 85% of our energy needs are imported.

→ New tech like (Fast Breeder Reactors) ⟹ even more efficiency

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Concerns

→ India imports uranium and plutonium.

→ Negative public perception

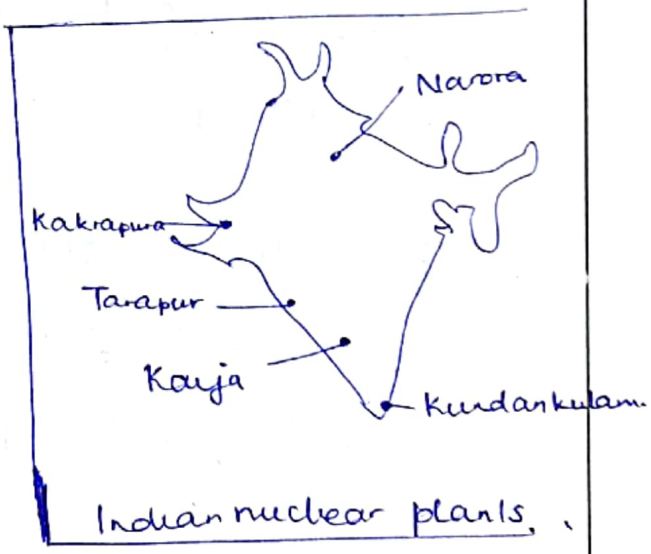
(eg) Japan releasing Fukushima treated water into its sea ⇒ panic in China.

→ Nuclear waste disposal ⇒ a challenge!

→ Nuclear sites ⇒ sensitive to attack by enemies nations.

→ Nuclear disasters

(eg) Chernobyl 1986
Fukushima 2011



Indian nuclear plants.

Thus, a gradual move towards nuclear energy with checks & balances

⇒ Atmanirbhar Bharat + Panchamrita goals met

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